PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

MEDICARE AND THE AMERICAN HEALTH CARE SYSTEM

REPORT TO THE CONGRESS

JUNE 1993

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June 1, 1993

The Honorable Thomas Foley
Speaker
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

I am hereby transmitting to the Congress the report *Medicare and the American Health Care System.* This report has been prepared by the Prospective Payment Assessment Commission as required by Section 1886(e)(2)(C) of the Social Security Act.

Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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June 1, 1993

The Honorable Al Gore
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Dear Mr. President:

I am hereby transmitting to the Congress the report *Medicare and the American Health Care System.* This report has been prepared by the Prospective Payment Assessment Commission as required by Section 1886(e)(2)(C) of the Social Security Act.

Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Executive Summary

Executive Summary

Spending for health care services in the United States has increased from $250 billion in 1980 to an estimated $832 billion in 1992. Total expenditures are projected to reach $1.6 trillion by 2000, almost doubling in fewer than 10 years. Real health care expenditures are rising faster than the rate of increase in the nation's total economic output. Thus, health care consumes an ever-larger share of the nation's resources. The proportion of gross domestic product devoted to health care is expected to rise from 14 percent in 1992 to more than 18 percent by 2000.

The continuous rise in health care spending affects all Americans. Government programs and private payers face ever-increasing bills from health care providers. Providers, in turn, are squeezed by third-party payers' efforts to limit expenditures while they furnish care to a growing number of uninsured. The real financial burden, however, is borne by individuals through foregone wage increases to offset employers' health care expenses; premiums, deductibles, and copayments that are rising faster than income; and higher taxes to fund government health programs.

Most privately insured individuals and families are covered under group policies offered by employers to full-time workers. Employees risk losing coverage if they change jobs or cut back to part-time status. Even those who stay in one job face the threat of losing coverage as the proportion of employers offering health benefits declines. Middle- and upper-income workers are more likely than low-income workers and nonworkers to have private health insurance, but there are nearly as many uninsured nonpoor people as uninsured poor people.

Rising health care expenditures and a growing uninsured population are national concerns; however, the effect of these trends may be even more acute at the state level. State Medicaid programs, which provide health care benefits to certain low-income residents, have experienced growth in both enrollment and expenditures. With limited tax bases, many states face the difficult challenge of curtailing Medicaid spending increases without compromising access to necessary care. The rising number of uninsured individuals has moved state policy makers to develop new programs in an attempt to provide better access to health care services for more people. However, diversity in the environments in which policy changes are developed and implemented results in considerable variation across states.

This report presents the results of the Prospective Payment Assessment Commission's (ProPAC's) ongoing study of broad trends affecting the Medicare program and the American health care system. It begins with a discussion of trends in national health care expenditures and examines the causes and effects of increased spending. The report then focuses on how Medicare's prospective payment system (PPS) affects the delivery and financing of hospital inpatient care, and its impact on services provided in other settings and on Medicare enrollees. Finally, this report discusses state variation in the costs and financing of health care services, and examines possible reasons for this variation, such as differences in population characteristics, health service supply and utilization, and regulatory environment.

INCREASED SPENDING FOR HEALTH CARE

The rate of growth in national health spending declined from 16 percent in 1981 to 7.6 percent in 1986. It then increased, averaging 10.6 percent annually between 1986 and 1992. Much of the year-to-year variation in health expenditure growth is explained by fluctuations in general inflation. However, the annual rate of increase was almost six percentage points higher than economywide inflation between 1980 and 1990.

Public and private third-party payers have implemented various measures to contain their expenditures, including prospective payment methods, managed care arrangements, and utilization review.

These initiatives contributed to slower growth in the early to mid-1980s. Nevertheless, spending began to accelerate again in 1987, reaching an estimated real rate of growth of nearly 8 percent in 1992.

Changes in Federal and state policies contributed to the surge in national health expenditures. The Medicare Catastrophic Coverage Act of 1988 resulted in a dramatic increase in utilization of and expenditures for skilled nursing services in 1989. Broadened Medicare coverage for home health care caused sharp increases in spending for these services as well. The Boren Amendment, which requires Medicaid programs to cover the costs of "efficiently and economically operated" facilities, and increases in Medicaid enrollment contributed to the substantial rise in Medicaid payments. Further, tax and donation programs used by states to bolster the Federal portion of their Medicaid budgets contributed to the net increase in overall expenditures. As a result of these varied policy changes, Federal, state, and local government spending accounted for 44 percent of national health care expenditures in 1991, up from 42 percent in 1980. Under existing laws, the government share is expected to exceed 50 percent by 2000.

Despite higher levels of spending for health care services, an ever-increasing number of Americans lack health insurance. Nearly 17 percent of the under-65 population, or slightly more than 36 million people, were uninsured in 1991. This represents a 1.7 percent increase over 1990. Although unemployed and low-income families are more likely to be uninsured, more and more workers who are not poor lack health insurance. In 1991, 85 percent of the uninsured were members of families headed by a worker, and about 46 percent of the uninsured had family incomes of more than $20,000.

The overall cost of providing hospital services increased at an annual rate of 9.5 percent between 1985 and 1991. This is attributable to changes in both the cost per hospital case and the number of cases (inpatient admissions and outpatient visits). The largest single contributor to hospital cost increases, general inflation, was responsible for roughly 43 percent of the total change. Price inflation specific to the hospital industry added 8 percent, with virtually all the impact resulting from higher than average increases in wages and salaries, pharmaceutical prices, and malpractice premiums. Hospital-specific inflation was a particularly prominent factor from 1987 to 1989, but has since become less important.

Case complexity and service intensity also contributed significantly to cost growth, accounting for 19 percent and 14 percent of the total, respectively. Intensity increases had the greatest impact between 1985 and 1987, whereas the effect of case complexity was nearly constant between 1985 and 1991. Declining hospital productivity was responsible for about 8 percent of the cost growth during this period.

Population growth accounted for just over 10 percent of higher hospital costs. This effect, however, was partially offset by lower hospital use rates. Between 1985 and 1989, the number of hospital cases per person declined annually. But since then, per capita hospital utilization has risen substantially, albeit solely in the outpatient area.

Changes in price and volume also explain the growth in expenditures for other health care services. Their relative contributions, however, vary among sectors. A larger portion of growth in home health expenditures is attributed to greater use of these services. Increase in use accounts for a smaller share of growth in spending for nursing facility and physician services. Change in the mix of services provided by physicians, however, is a major factor in higher spending for physician services.

For nearly a decade, Medicare's prospective payment system has been one of the key initiatives in the national effort to contain health care costs. By paying hospitals a predetermined, fixed amount for each patient discharge, PPS was designed to encourage hospitals to improve efficiency. While the increase in Medicare payments for inpatient services has slowed, there has been little apparent effect on hospital costs. The growth in Medicare expenditures for hospital inpatient services fell from an annual rate of 9.1 percent above general inflation for the six years preceding PPS to 2.5 percent for the first six years under PPS. However, after a decrease in 1984, the pre-PPS trend in Medicare operating cost growth resumed.

HOSPITAL FINANCIAL CONDITION

Hospitals' PPS operating margins (the difference between PPS payments and Medicare's portion of hospital inpatient operating costs) have declined sharply since the early years of prospective payment, because of sustained increases in operating costs for Medicare patients that outpaced the growth in PPS payments. In fact, the aggregate PPS operating margin has been below zero since the seventh year of PPS and is estimated to be –9.9 percent in the tenth payment year.

PPS margins vary both across and within hospital groups. Urban hospitals tend to have higher PPS margins than rural hospitals, although this differential has narrowed considerably. Teaching hospitals have higher PPS margins than non-teaching hospitals, and the gap between them has widened over time.

The narrowing differential between urban and rural hospitals' PPS margins reflects policy changes that were intended to increase payments to rural hospitals. Rural hospitals have been helped by larger payment updates. Sole community hospitals especially have benefited from policy changes that allow payments to be related to historical costs if they are greater than PPS rates. In addition, numerous rural hospitals now receive a higher wage index adjustment after being reclassified into urban labor market areas. However, other factors—especially declining admissions and relatively small changes in the hospital case-mix index—have partially offset rural hospitals' gains from policy changes.

Hospital financial performance under PPS is a function of effective management as well as features of the payment system. An examination of facilities that exhibited significant improvement or deterioration in their PPS margins from 1987 to 1990 showed that those with improved performance received larger PPS payment increases than other hospitals. This was primarily due to policy changes that enhanced payments to disproportionate share hospitals, sole community hospitals, and certain rural facilities that were redesignated to receive a higher urban wage index. However, the determining factor in their financial turnaround was the extent to which hospital administrators curtailed increases in costs. Hospitals with improved financial performance were better able to control their costs per case than other hospitals. These hospitals cut lengths of stay; those located in rural areas improved productivity as well. By contrast, hospitals with worsening PPS financial conditions generally experienced reductions in productivity and increased lengths of stay and costs. Clearly, sound internal management action in response to PPS incentives is a major determinant of hospital financial performance.

Despite declining PPS margins, the overall financial status of hospitals has been strong in recent years. The total margin measures the difference between total revenues and expenses for all a facility's services, which encompass all payers and include outpatient, post-acute, and non-patient care activities. After climbing to an unprecedented level during the initial years of PPS, the aggregate total margin declined for several years but has recently risen again. The total margin remains higher than at any time before PPS was enacted.

As with PPS margins, total margins vary widely both across hospital groups and among individual hospitals within those groups. Urban and teaching hospitals tend to have higher PPS margins, yet they have lower total margins than rural and non-teaching facilities. Notably, hospitals with the highest level of teaching intensity had by far the highest PPS margin in the eighth year of PPS, although their total margin was among the lowest of any hospital group. Medicare disproportionate share hospitals also have a relatively low total margin. However, their total margin increased substantially in the eighth PPS year. This may be due to a sharp rise in Medicaid disproportionate share payments, much of which probably are made to hospitals that qualify for the Medicare disproportionate share adjustment. Almost one-quarter of all hospitals had negative total margins in the eighth payment year. Even so, the top 25 percent of all hospitals within any group had high total margins and fared well financially.

The strength of total margins in the face of declining PPS margins indicates that hospitals have been able to increase revenues from other sources to offset the gap between PPS costs and payments. Many hospitals that experience large losses on their uncompensated care and Medicare and Medicaid patients cover those losses by raising charges to private payers. This is referred to as

cost shifting. Cost shifting often results in an inequitable distribution of overall hospital payments, as well as a disproportionately large financial burden on some payers. Most important, some hospitals have too small a share of private pay patients to successfully cover their costs. This may affect the services they can provide, threatening access to care for certain populations.

COST CONTAINMENT

The Medicare program has had more success than other payers in controlling the rise in its per capita health care spending. Before 1980, real Medicare expenditures per enrollee were growing substantially faster than national per capita health spending. In recent years, that pattern has been reversed. Much of this success was due to a slowdown in spending for hospital services and, more recently, in physician spending as well.

Although PPS has had a significant effect on the growth in Medicare expenditures for hospital services, the intended effect of lowering hospital costs has not materialized. This is primarily because the incentive to contain costs is weakened by most hospitals' ability to cost shift. Medicare operating costs per discharge showed steady growth of between 9 percent and 9.7 percent in the third through the sixth years of PPS. In the seventh and eighth years, however, this dropped to 8.3 percent and 7.3 percent, respectively. The trend of slower rates of increase in costs corresponds to the first year in which the aggregate PPS margin fell below zero.

Initiatives to limit the growth in third-party payments for hospital services have also encouraged the growth in other types of health care services. This may have dampened the overall effectiveness of cost containment strategies. Shortened hospital lengths of stay—at least partly in response to hospitals' efforts to reduce costs—contributed to the elevated demand for post-acute care. Additionally, growth in the number and use of facilities that provide less intensive treatment probably is related to heightened interest in finding the lowest priced provider. Although the proliferation of providers contributed to slower cost growth on a per service basis, it has had a substantial impact on the volume of services and on aggregate expenditure increases.

UTILIZATION

Despite an annual population growth of 1 percent and a 2 percent annual increase in Medicare enrollees over the last decade, fewer people received hospital inpatient care each year. Community hospital admissions dropped from almost 37.9 million in 1982 to 32.4 million in 1992, a 14.5 percent reduction. Most of the overall change reflects the annual decline in under-65 admissions since 1982. However, both elderly and nonelderly admissions dropped substantially in the first three years of PPS. Since 1986, under-65 admissions have continued to fall by almost 2 percent per year while elderly admissions have increased, but generally more slowly than the growth in the Medicare population.

As fewer people receive inpatient care, more are treated in outpatient and post-acute care settings. This trend reflects a combination of changes in medical practice and in insurance coverage and reimbursement policies. Scientific advances have enhanced the variety and efficacy of services that can be substituted for inpatient care. Hospitals discharge patients earlier to recover at home or in skilled nursing facilities (SNFs) without compromising quality of care. Many less severely ill patients who formerly would have been hospitalized now are treated as outpatients. Consequently, more people receive more services in ambulatory care settings.

Between 1990 and 1991, hospital outpatient department encounters increased almost 7 percent, to 322 million. Moreover, the number of hospital-based ambulatory surgeries rose from 3 million in 1980 to 12 million in 1991. The dramatic increases in outpatient utilization and capacity were accompanied by commensurate increases in hospital outpatient income. Hospitals received about $11 billion for outpatient services in 1980, which accounted for about 11 percent of total revenue. In 1991, outpatient revenue reached $63 billion, equaling 22 percent of total hospital revenue.

Federal, state, and private insurer policies have encouraged the growth and diversification of ambulatory care facilities that compete directly with hospitals. The number of free-standing ambulatory surgical centers (ASCs) increased from 239 in 1983 to 1,556 in 1991; 192 new facilities were added in 1991 alone. In response to this greater

capacity, the number of procedures performed in ASCs soared from 377,000 in 1983 to 2.5 million in 1991. Physician office-based surgery is also becoming more prevalent. In part, this may reflect growth in the supply of physicians, which rose by 31 percent between 1980 and 1990—a rate far surpassing population growth. The number of physicians with specialty training continues to increase even more rapidly.

There also has been substantial growth in the number and breadth of post-acute care services. Owing to broadened Medicare coverage for home health services in 1987, home health visits increased about 39 percent per year between 1989 and 1992. Consequently, Medicare expenditures for home health services climbed 44 percent in 1992, reaching $8.2 billion. Despite the 1989 repeal of the Medicare Catastrophic Coverage Act, which had expanded Medicare utilization of and expenditures for skilled nursing facility services, Medicare-covered SNF days increased 25 percent between 1991 and 1992. In addition, Medicare expenditures for hospice care reached $880 million in 1992, a twentyfold increase over 1985.

During the last decade, managed care systems have become a popular tool—especially for employers—to try to control burgeoning utilization of and spending on a broad range of health care services. Managed care arrangements take on many forms, but all integrate the financing and delivery of a defined set of services for plan members. These systems offer the potential for controlling costs through organized networks of providers who agree to furnish care at discounted rates. Actual cost containment, however, depends on the extent to which managed care plans control the use of services.

Among the earliest and most restrictive types of managed care arrangements are health maintenance organizations (HMOs). The original HMO model has evolved into a variety of options; however, the defining characteristic is that HMOs bear the risk for high service utilization. Consequently, they employ various methods to limit enrollees' use of services. In comparison, preferred provider organizations (PPOs) generally are less restrictive than HMOs, allowing members more flexibility to choose providers. PPOs encourage members to use lower cost, participating providers by requiring higher out-of-pocket expenses for services rendered by non-plan providers. Although more people are eligible to participate in PPOs than are enrolled in HMOs, PPOs have substantially weaker utilization and cost containment incentives than HMOs. Consequently, they have not demonstrated success in controlling overall expenditures.

The Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 established a program that allows Medicare beneficiaries to join HMOs. Plans receive a fixed payment for providing all regularly covered Part A (hospital inpatient) and Part B (outpatient and physician) services to Medicare beneficiaries enrolled in the HMO, and may charge an extra premium to furnish services beyond basic Medicare coverage. Enrollee and provider response to the TEFRA HMO program has not met initial expectations, however. Beneficiary enrollment has shown only modest growth, and HMO provider participation has steadily declined since peaking in 1987. As of January 1993, only 1.5 million beneficiaries, about 4 percent of the Medicare population, were enrolled in HMOs.

MEDICARE BENEFICIARIES

Preliminary estimates indicate that total Part A and Part B Medicare payments reached about $136 billion in 1992, an increase of 12.5 percent from 1991. More than 75 percent of total Medicare expenditures were for inpatient care and physician services. However, spending for skilled nursing and home health care grew the most between 1991 and 1992, increasing 63 percent and 44 percent, respectively. Primarily because of these two services, the rate of increase in Part A expenditures, about 15 percent, exceeded the growth in Part B payments, which rose only 9 percent. Similarly, Part A payments per enrollee grew by 12.7 percent from 1991 to 1992, whereas Part B expenditures per enrollee increased by just over 7 percent.

The growth in Medicare expenditures is partially due to increases in beneficiary enrollment and service use. In 1992, there were approximately 35 million Medicare enrollees, 10 percent of whom were either disabled or had end-stage renal disease. This represents an increase of 7 million beneficiaries, or about 25 percent, since 1980. Moreover, the proportion of enrollees receiving services for which Medicare pays grew from 63 percent in 1980 to 80

percent in 1990. Underlying this trend are technological innovations and changes in medical treatment protocols that expanded the availability of outpatient services to more beneficiaries. In addition, Federal laws and administrative changes relaxed eligibility barriers for post-acute care service coverage and allowed more home health agencies to participate in the Medicare program. Further, there was a real increase in the supply of physicians; Part B deductibles also rose more slowly than inflation, which allowed more beneficiaries to meet the deductible and receive benefits under Part B.

In 1991, almost 7 million Medicare beneficiaries, or more than 19 percent of all enrollees, had at least one hospitalization. About 40 percent of all Medicare admissions were for beneficiaries between 65 and 74 years old; however, 15 percent were for beneficiaries over 85, even though they represent only 10 percent of the elderly. Some 11 percent of Medicare beneficiaries admitted to rural hospitals were transferred to urban facilities for treatment. Beneficiaries discharged from rural hospitals were, on average, older than urban hospital discharges.

Almost 46 percent of Medicare enrollees (16 million), most of whom were between 65 and 74, received hospital outpatient care in 1991. Physician services, however, continue to be the most widely used Medicare benefit. In 1990, 81 percent of enrollees met the Part B deductible and used covered physician services. The use of services following a hospital stay has also increased rapidly. Between 1980 and 1990, Medicare-covered skilled nursing and home health care use more than doubled. In 1991, 2.2 million beneficiaries used home health services.

Medicare enrollees are affected directly by rising health care expenditures due to cost sharing requirements. Total beneficiary liability—comprising Part B premiums, deductibles, coinsurance, and payments for nonparticipating physician charges in excess of the allowed amount—rose by 6.4 percent from 1991 to 1992. This was, however, slower than the increase in total Medicare spending. Thus, enrollee liability as a proportion of Medicare expenditures is declining.

In 1992, about 82 percent of beneficiary liability for Medicare-covered services was for services other than hospital inpatient care. The standard enrollee coinsurance for Part B services is 20 percent of the Medicare-approved payment amount. However, hospital outpatient copayments are 20 percent of facility charges. Because charges generally are higher than both provider costs and Medicare payments, beneficiary liability for hospital outpatient services is substantially higher than for all other Part B services.

Medicare beneficiaries can control their personal out-of-pocket spending through supplemental insurance policies. These policies offer partial or full coverage for Medicare cost sharing requirements and may provide additional benefits as well. In 1992, about 78 percent of beneficiaries supplemented their Medicare coverage either through privately purchased individual medigap policies, employer-based group retiree plans, or Medicaid programs. Although the number of Medicare enrollees with private supplemental insurance is not well documented, evidence suggests that the availability of employer-based benefits may be threatened. As health care costs continue to rise, fewer employers sponsor health insurance for retirees. Those that do have shifted more of the cost to beneficiaries through higher premiums, deductibles, and copayments.

Certain low-income elderly are eligible to receive both Medicare and Medicaid coverage. In 1991, about 2 million Medicare beneficiaries were dually eligible. In these cases, Medicaid pays beneficiaries' premiums, deductibles, and coinsurance, and may cover additional services like prescription drugs. Total Medicaid payments for dually eligible individuals were somewhat more than $3 billion in 1991. Inpatient and long-term care services accounted for the majority of expenditures, at 36 percent and 33 percent, respectively.

Within these aggregate statistics, health care spending and service use vary by location, type of service, and physical illness or condition. Significant variation in service use across groups of beneficiaries or geographic areas may reflect appropriate differences in treatment patterns or point to potential problems regarding quality of care or inadequate access to care. A ProPAC study of service use by Medicare beneficiaries from 60 days before to 90 days after a hospitalization for each of six selected conditions found differences

in treatment patterns depending on whether the initial admission occurred in a rural or an urban hospital. Although length of stay, service use, and costs varied for urban and rural episodes of care, meaningful differences between patient outcomes were not found.

Beneficiaries admitted to urban hospitals for all six conditions had longer lengths of stay and higher associated costs than those admitted to rural hospitals. Urban admissions for three of the six conditions had slightly higher mortality rates than their rural counterparts. Home health service use tended to be higher for urban beneficiaries, whereas use of skilled nursing services was more prevalent among rural beneficiaries. Further, transfer and readmission rates were slightly higher for rural than for urban hospitals.

Medicare beneficiaries often use a broad range of services during the course of treatment for a spell of illness. Service use varies across settings and providers according to beneficiary characteristics, the availability of services, insurance coverage, and medical practice patterns, among other factors. Variations in patterns of service use influence levels of spending. But more important, they may affect patient outcomes and access to care. Patterns of care analyses cannot assess the appropriateness of different practice patterns. However, they can help to reveal variations in health care spending across areas, thereby providing a context for policy makers to understand the broader implications of national health care reform.

VARIATION IN HEALTH CARE ENVIRONMENTS ACROSS STATES

Though Medicare benefits and eligibility requirements are applied uniformly across the United States, Medicare spending varies widely among states. In 1991, total Medicare benefit payments averaged $3,320 per enrollee, ranging from a low of $2,152 in Hawaii to a high of nearly $4,700 in the District of Columbia. Some of this variation is because of Medicare benefit payment policies that recognize certain differences in provider costs across regions. To a larger extent, however, it reflects the heterogeneity of American society and the pluralistic health care system that exists to meet diverse health care needs.

As the nation seeks to control the growth in health care spending while increasing access to care for the uninsured, an examination of health care delivery and financing at the state level may provide valuable insights for developing and evaluating Federal health care reform proposals. National health reform initiatives will have different effects across areas because of unique state demographics that influence health service utilization and expenditures for services. Population size and density are major determinants of the range of available services and service concentration. Characteristics such as age and health status, together with insurance coverage, affect the demand for services and the capacity to meet this demand. Service utilization by some populations may also depend on the local supply of providers. Further, income levels affect both the extent to which residents require public assistance and the states' ability to pay for services. All these factors combined affect the cost of providing health care services.

In 1991, the national average total Medicare inpatient hospital cost per discharge—holding case complexity and geographic wage differences constant—was $4,516. This ranged from a high of $6,043 in Hawaii to a low of $3,689 in Idaho. The 10 lowest cost states were primarily rural and, except for Wisconsin, were located west of the Mississippi River. The seven states with the highest hospital cost per discharge, excluding Hawaii, were located along the East Coast and in the southern United States.

Hospitals rely heavily on cost shifting to private insurers to cover losses from uncompensated care and from below-cost payments by Medicare and Medicaid. The level of cost shifting, however, varies considerably across states. In New York, for example, payments for privately insured patients are 7 percent more than the cost of their care, whereas payments are 58 percent higher than costs in Arkansas. Each hospital's need to cost shift depends on the extent of its losses from Medicare, Medicaid, and uncompensated care. The degree of cost shifting depends on the number of privately insured patients and the hospital's ability to collect payments from their insurers that exceed their costs. Cost shifting also varies by state owing to unique characteristics within each state's health care environment that may limit hospitals' ability to set charges.

Utilization of health care services is related to the supply of providers, which varies across states and by service. In 1991, the number of beds in community hospitals averaged 3.8 per 1,000 residents; however, this ranged from about seven beds in North Dakota to two beds in Alaska. Alaska also had the lowest inpatient utilization, with 49 percent hospital occupancy and only 66 inpatient admissions per 1,000 residents. This contrasts with New York, which had the highest average occupancy rate (85.3 percent), and Tennessee, which had the highest admission rate (157 per 1,000 residents). Western states tend to have shorter lengths of stay, with Utah and Oregon averaging 5.2 and 5.3 days, respectively. By contrast, patients hospitalized in North Dakota and South Dakota stay an average of 11.1 days and 10.3 days, respectively.

The supply of practicing physicians may depend on a number of factors, including the presence of tertiary medical centers, population density, relative prices of services, and social amenities. This notion is supported by the fact that rural states tend to have fewer physicians per capita than urban areas. The supply of active non-Federal physicians ranged from 127 per 100,000 residents in Idaho to 337 in Massachusetts.

Post-acute care service capacity also varies dramatically among states. The national average number of free-standing nursing facility beds in 1992 was 55 per 1,000 elderly residents, but ranged from a low of 19 beds in Hawaii to a high of 89 beds in Indiana. Similarly, the supply of home health agencies varied substantially, from almost 84 per 100,000 elderly residents in Wyoming to only 8.5 per 100,000 elderly residents in New York. Home health use rates also vary. Almost 10 percent of Medicare beneficiaries in Mississippi used home health care, receiving an average of 62 visits in 1990, compared with Hawaii, where only 2 percent of beneficiaries used home health care, averaging 19 visits.

In response to the continued escalation of health care expenditures and changes in the health care environment, state governments' roles as third-party payers and regulatory agents have gained prominence in the health care arena. National enrollment in Medicaid programs, which are administered by individual states and funded jointly by state and Federal governments, rose about 3.7 percent annually between 1987 and 1990. Before 1989, total Medicaid expenditures grew more slowly than national personal health care expenditures. Since 1989, however, Medicaid expenditures have outpaced national spending, increasing an estimated 21.7 percent between 1991 and 1992.

States must adhere to certain minimum Federal guidelines regarding Medicaid eligibility and benefit coverage. However, states may choose to expand eligibility and coverage beyond Federal requirements. They also implement various payment methods for Medicaid enrollee service use. Most programs use some form of prospective payment for hospital inpatient services, but the actual payment method varies by type of service within states.

Regardless of specific population and program characteristics, all states are struggling to control Medicaid spending. Some have narrowed program eligibility requirements or service coverage. Others have developed more innovative strategies to control the growth in expenditures. Oregon, for example, recently received a Medicaid waiver whereby the state will discontinue coverage for certain conditions and use the financial savings to cover more people. In addition, a number of other states use managed care arrangements to provide services under their Medicaid programs.

The decrease in the number of employers providing health care insurance is particularly troublesome for state authorities. High premiums for private insurance coverage discourage uninsured workers from purchasing individual policies. These people, therefore, are vulnerable to the devastating effects of large health care bills, and may join the Medicaid rolls or add to the amount of uncompensated care if they incur significant medical expenses. States are in various phases of developing and implementing a number of small market reform programs in attempts to avert the loss of private insurance by individuals or employees of small firms. Guaranteed coverage laws prevent lapses in insurance coverage when, for example, an employee changes jobs. Reinsurance programs create pools of money that are used to pay for catastrophic illnesses. States may also modify mandated benefit provisions or create tax credits to encourage small employers to provide health insurance for their employees.

Finally, community rating laws require standard premiums for all individuals regardless of health status.

In some states, formal regulatory efforts govern the supply of services and facilities or payment rates, especially for hospital services. States may control the supply of services and facilities indirectly through licensure requirements, or directly in accordance with certificate of need (CON) laws. A popular regulatory mechanism in the 1970s, CON programs were de-emphasized or eliminated in many states during the 1980s, but have recently reemerged. Such programs employ varying expenditure thresholds that trigger state review of capital projects or health care service expansions.

Rate setting programs are intended to control health care expenditures by enforcing limits on the amount providers can charge or receive for health care services. Most rate setting strategies are specific to hospital services; however, some states regulate payments for other services as well. All-payer systems establish limits for hospital payments from all payer groups, including Medicare and Medicaid. Although four states administered all-payer rate setting systems during the 1980s, only Maryland maintains an all-payer system today.

One of the most important tools necessary for developing state and national health care reform models is complete and accurate collection of health care utilization and cost data. Currently, health care providers' cost accounting and data compilation methods mirror the pluralistic nature of the entire health care services delivery system. The lack of uniform data collection inhibits meaningful comparisons across and within states. Only 34 states had mandatory uniform data collection systems in place in 1992, and these generally were not consistent across states.

In addition to the most commonly used regulatory measures cited above, states are considering a number of other methods to change their health care environments. Medical malpractice reform has gained prominence as a method to reduce defensive medicine practices, thereby slowing the growth in physician and hospital services expenditures. Antitrust immunity laws are designed to encourage cooperation among hospitals and discourage the duplication of services, which may slow the rate of increase in costs and, perhaps, expand access to care. Physician self-referral statutes ban doctors from referring patients to facilities like clinical laboratories and free-standing radiology centers in which they have a financial interest. Finally, several states have enacted multifaceted health reform measures that integrate many of these initiatives.

CONCLUSIONS

The unrelenting growth of national health care expenditures places an ever-larger burden on governments, businesses, and individuals who pay for services. Furthermore, policy makers are faced with the need to expand access to care while limiting spending increases. However, past attempts to achieve these goals for the nation have met with limited success. Cost containment efforts often focus on one type of provider or service at a time, which tends to spur growth in utilization and spending in other settings. In addition, cost control initiatives by individual payers have allowed providers to maintain their incomes by increasing charges to other payers. This continues to permit growth in both the number and intensity of services, which results in overall increases in health care spending.

The extent to which uncontrolled growth in health care utilization and spending can continue—and its ramifications for those who bear the true cost—is a question that has caused much concern in the private and public sectors. Private insurers and employers increasingly are turning to managed care arrangements in an attempt to control the growth in spending for a greater number of services. State governments are developing and implementing a number of innovative strategies to solve the complex problems they face. Although these measures may help to relieve the pressure on specific payers and populations, they have not yet contained overall cost increases. Combined action from all payers, providers, and consumers is necessary to produce effective changes in health care policy.

Chapter 1

Issues in Health Care Spending

Chapter 1

Issues in Health Care Spending

The American health care system has undergone dramatic changes over the last decade. Among these are major technological advances, increased use of outpatient and post-acute settings, the introduction of new Medicare payment methods for physicians and hospitals, and the expansion of managed care. Some changes have improved the efficiency and effectiveness of health care delivery, while others have contributed to health expenditures growing more rapidly than in nearly every other sector of the economy. Moreover, the continuous escalation of health expenditures during a time of economic recession has left more people than ever without health insurance coverage and created a greater financial burden for those who are covered. Solving these two problems simultaneously—bringing down health care cost growth to a manageable level while providing insurance coverage to those who lack it—is the difficult task faced by those designing health reform.

The Medicare program plays a prominent role in health care because it provides financial access to care for more than a seventh of the country's population and funds more than a sixth of all health spending. In the hospital sector, Medicare accounts for 35 percent of patient care revenues. In addition, Medicare policies have a major impact on the health care system, affecting the delivery and financing of the care provided not only for the elderly, but for all Americans. In this report, the Prospective Payment Assessment Commission (ProPAC) examines the Medicare program and the overall health care system. The report provides information on how Medicare's policies affect hospitals and other health care providers and, conversely, how the actions of providers and other payers influence the Medicare program.

This chapter first describes health care spending trends nationally, in total and then by payer and by health care sector. A discussion of continuing problems with health insurance coverage follows. The final section addresses several cost containment issues, including the factors explaining cost growth in various health care sectors, cost shifting as a barrier to cost control efforts in the hospital sector, and the potential for future cost containment.

Chapter 2 contains information on the financial condition of hospitals, as indicated by revenues, expenses, and margins. Chapter 3 examines the utilization and capacity of the health care system, looking at inpatient services, post-acute care, ambulatory care, and alternative delivery systems. Characteristics of Medicare beneficiaries, their health insurance coverage, and their utilization of services are discussed in Chapter 4. And finally, Chapter 5 analyzes variation in health care financing and delivery at the state level, including differences in demographics, supply and utilization, and policy environments.

TRENDS IN NATIONAL HEALTH CARE EXPENDITURES

National expenditures for health care rose dramatically during the 1980s, growing from $250 billion in 1980 to $675 billion in 1990 (see Table 1-1).[1] Expenditures increased to an estimated $832 billion in 1992—$3,310 for every person in the nation—at a time when disposable personal income (basically personal income after taxes) was about $17,300 per capita.[2] Recent projections suggest that health spending will continue to grow rapidly, reaching $912 billion in 1993 and $1,631 billion in 2000.[3]

Since 1980, the annual rate of growth in health expenditures has varied widely, declining from 16.0 percent in 1981 to 7.6 percent in 1986 and then increasing to 11.7 percent in 1990, before slowing again (see Figure 1-1). The underlying growth rate, however, does not appear to have changed

Table 1-1. National Health Expenditures, 1980-2000

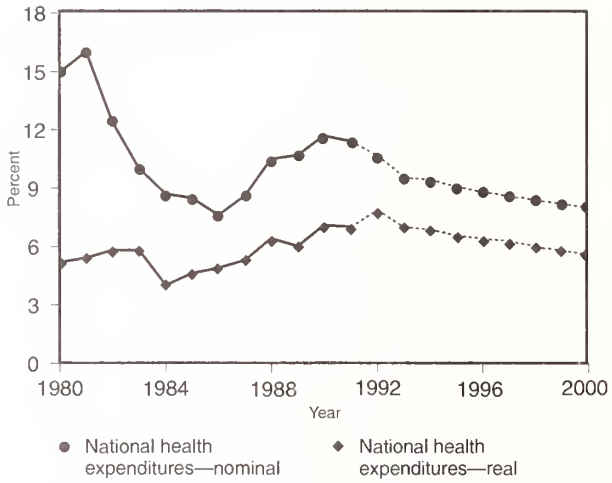
Year	Total Expenditures (In Billions)		Per Capita Expenditures	
	Nominal	Real[a]	Nominal	Real[a]
1980	$ 250	$ 421	$1,121	$1,888
1985	423	541	1,810	2,316
1990	675	720	2,742	2,926
1995[b]	1,089	1,015	4,216	3,927
2000[b]	1,631	1,361	6,068	5,062

[a] Adjusted by the GDP implicit price deflator and expressed in 1992 dollars.

[b] Projection.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office for projections.

Figure 1-1. Change in National Health Expenditures, 1980-2000 (In Percent)



Note: Projected for 1992 through 2000.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office for projections.

significantly, averaging 10.5 percent per year from 1980 to 1986 and an estimated 10.6 percent from 1986 to 1992. This trend reflects overall population growth of about 1 percent per year as well as the aging of the population. The population 65 years of age and over, which requires more health care resources than others, has been growing at about 2 percent a year. Much of the decline from the peak expenditure growth in 1981 to the trough in 1986 reflects a lower inflation rate in the economy as a whole. General price inflation affects costs (the expenses of providers) and ultimately health expenditures (payments for care) by increasing what providers pay for products and workers' wages.

Expenditures on health care are also strongly affected by special features of the health sector. Most people are insured for the majority of their health care costs by either private insurance or public programs. Few are well-informed about alternative sources of health care, and most are far less informed about clinical alternatives than those from whom they purchase care. Consequently, most people pay relatively little attention to cost and entrust decisions about the nature and amount of care they obtain to health providers. These providers, typically physicians, are motivated by professional training and values as well as by economic interest to provide the most complete care feasible.

Since neither individuals nor physicians are likely to be fully informed of costs or compelled to economize, they are likely to use any health care resources—hospital services, diagnostic procedures, office visits, or home care—that are perceived to benefit the patient. As a result, hospitals and other institutional providers compete primarily on the basis of perceived quality rather than on price, and many patients and physicians see access to new technology as a key indicator of quality.

The growth and success of medical technology—for example, new drugs, refined surgical techniques, and noninvasive diagnostic imaging tools such as magnetic resonance imaging—add a special dynamic to the health care sector. Institutional providers like hospitals have strong incentives to meet physicians' and patients' demands for the best care available by rapid acquisition of new technology, regardless of whether it has been shown to provide substantial benefits. Developers and suppliers of technology, such as clinicians perfecting new surgical techniques and private firms developing new equipment and pharmaceuticals, have incentives to continue technological innovation. Patients and providers, often lacking information on best practices and the effectiveness of new technologies, seek access to newer and often more costly care.

In combination, widespread health insurance, lack of information to individuals on clinical benefits, the role of the physician as the agent of the patient, and the rapid development of new technologies create a strong bias toward continuously

increasing costs in the health care sector. Since the market for health care services does not encourage purchasers and suppliers to weigh the costs and benefits of their decisions carefully, there is no assurance that the resulting level of spending on health care is consistent with the overall desires or needs of the population. As a result, there has been pressure in both the government and private sectors to reduce provider cost increases and the growth in expenditures devoted to health care.

The record of public and private cost containment activity in the 1980s and early 1990s has been mixed. Some efforts have succeeded, either temporarily or for longer periods. Others have shifted costs among insurers, providers, consumers, and levels of government. Finally, the effectiveness of many cost containment efforts remains uncertain. The success of some attempts to reduce prices or per unit costs has been partially offset by increases in the volume of care provided, especially in the ambulatory and home settings.

Recent Changes and the Trend in Expenditure Growth

The effect of cost containment activities initiated by both public and private purchasers was concentrated in the years from 1984 to 1987. During this period, real expenditure growth—increases in expenditures in excess of economywide inflation—averaged less than 5 percent per year and about a percentage point below the average increase in the previous four years (see Figure 1-1). Since 1987, however, national health expenditures have continued to rise at an ever-faster rate. Real growth continued at 6 percent in 1988 and 1989, then reached 7 percent in 1990 and 1991. The rate estimated for 1992—7.9 percent—would be the highest since the 1970s.

The accelerated growth in national health expenditures after 1987 reflects both the long-term vulnerability of the health sector to continuing cost escalation, as discussed above, and important but transitory developments. Substantial declines in hospital admissions and length of stay occurred immediately after implementation of Medicare's prospective payment system (PPS) in 1984. (See Chapter 3.) By 1988, these changes were no longer restraining expenditure growth. Revenues and expenses of community hospitals continued to rise, even when adjusted for volume, outpatient activity, and general inflation. (See Chapter 2.)

Expenditure growth after 1987 also reflects the transitory effect of changes in policies under Medicare and Medicaid. Enactment of the Medicare Catastrophic Coverage Act (MCCA) in 1988 and the separate clarification of coverage guidelines drove up Medicare expenditures for skilled nursing facility (SNF) care in 1988 and 1989. (Because greater Medicare use was associated with declines in use by private pay patients and Medicaid recipients, total growth in SNF expenditures was less than the increase in Medicare spending on this care.)[4] Subsequent repeal of MCCA in 1989 reduced the upward pressure on Medicare nursing facility expenditures, but the impact of the coverage clarification continued. Similar changes in Medicare home health coverage and eligibility rules have contributed to a steep rise in spending on this service since 1988.

Medicaid spending accelerated in response to a number of factors. Since 1984, Congress has expanded Medicaid eligibility, with the most important changes targeted at pregnant women and children. This has increased the number of Medicaid recipients and the growth of program expenditures. Toward the end of the decade, hospitals in several states brought suit under the 1981 Boren Amendment, which requires that Medicaid hospital and nursing home payments cover the costs of "efficiently and economically operated facilities." Court settlements and the threat of more such suits have led to higher payment levels in several states. Finally, the recession of 1990 and 1991, combined with slow economic growth both before and after, expanded the number of Medicaid recipients.

In the late 1980s, states began making substantial payments to hospitals that serve a disproportionate share of low-income patients, and many states made increased use of taxes and donations to help finance Medicaid spending. Since the Federal government generally pays for 50 percent to 80 percent of state Medicaid outlays, the increases in state spending from provider-specific taxes and donations that counted toward the state share generated substantial increases in Federal spending on Medicaid.[5] The Health Care Financing Administration (HCFA) estimates that

about two-thirds of tax and donation revenue is used to fund disproportionate share payments to hospitals. Such payments effectively offset most of the cost of any hospital-specific taxes while increasing Federal expenditures. Although this spending is in part a redistribution from the state to the Federal level, the availability of additional funds to the states appears to have financed a significant net increase in aggregate health care spending.

In combination, recent demographic and health sector developments as well as several policy changes have contributed to double-digit annual expenditure increases for some types of care over the last five years. However, some changes produce a one-time increase in expenditures without necessarily raising long-term growth rates. For example, part of the estimated 29 percent per year annual increase in Medicaid spending between 1990 and 1992 represents a shift among payment sources. Increases in Federal and state payments reduced the incentive for hospitals to raise charges to private pay patients to cover the costs of uncompensated care, partially offsetting the increase in government expenditures by relative declines in private expenditures. Thus, recent Medicaid growth neither fully translates into changes in national health spending nor indicates that Medicaid outlays will continue to grow at similar rates in the future. The Congressional Budget Office (CBO) forecasts that Medicaid expenditures will continue rising, but much more slowly—about 13 percent per year between 1992 and 2000—based on the assumption that all mandated eligibility changes have been implemented and disproportionate share payments have been capped.

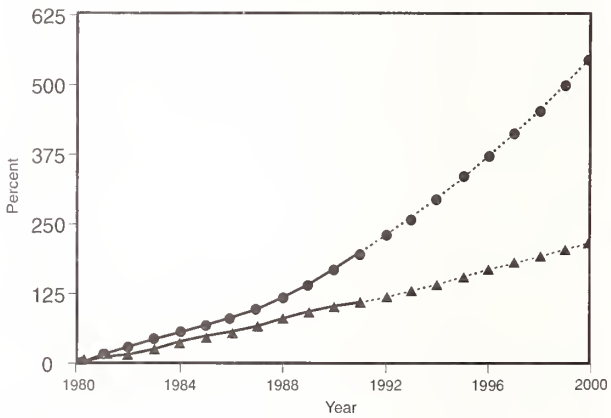
The repeal of MCCA removes a factor increasing Medicare SNF expenditures. As with Medicaid, growth rates for Medicare spending on SNF and home health care are expected to fall gradually as the benefit clarification affecting these services takes its course. General price inflation also is expected to ease after 1992. Forecasts of the rise in total health expenditures remain high, but are substantially less than the growth of recent years. Even without reflecting any potential cost containment benefit from health reform, the real annual increase in expenditures is projected to fall one percentage point by 1995 from its 1992 peak, and to drop another percentage point by 2000.

Measuring the Impact of Rising Health Expenditures

The gross domestic product (GDP) measures the total value of goods and services produced within the borders of the United States. Health care spending is often compared with the GDP to measure how much of the nation's resources are being used to produce and purchase health care services. National health expenditures have grown more rapidly than GDP in every year since 1980 except for 1984, with modest differences in annual change compounding into very large differences in cumulative growth (see Figure 1-2). As a result, spending on health care has increased from 9 percent of GDP in 1980 to an estimated 14 percent in 1992. The share of GDP devoted to health care is forecasted to reach 15 percent in 1994 and nearly 19 percent in 2000.

The rapid growth of the health care sector in the United States contrasts both with spending on other national priorities and with the experience of other Western industrialized countries.[6] The share devoted to education has been about 8 percent and that for investment in non-defense public infrastructure about 2.5 percent since 1980.[7] In contrast to the United States, other industrialized countries spend

Figure 1-2. Cumulative Change in National Health Expenditures and Gross Domestic Product, 1980-2000 (In Percent)



Note: Projected for 1992 through 2000.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office for projections.

approximately 7.3 percent of their GDP on health care, with shares ranging from 5.3 percent in Greece to 8.6 percent in Canada.[8] Between 1975 and 1987, the share of GDP devoted to health care increased 2.8 percentage points in the United States, but only 0.9 percentage points for all countries in the Organization for Economic Cooperation and Development.

Although there is considerable agreement about the general pattern of future growth in health expenditures, various observers forecast different rates of increase. Within the last year the Congressional Budget Office, the Health Care Financing Administration, and the U.S. Department of Commerce have all prepared projections (see Table 1-2). CBO forecasts an annual increase of 9.4 percent from 1992 through 1995 and 8.4 percent from 1995 through 2000, implying growth of 8.8 percent per year over the 1992 to 2000 period. HCFA projections are about one percentage point higher each year from 1992 to 2000. The Department of Commerce forecasts a much higher rate of growth: 12.1 percent for 1993 and a 12 percent to 15 percent annual increase for the next five years.[9] This chapter presents the CBO forecasts coupled with the historical data prepared by HCFA.

The differences between the forecasts are largely due to the assumptions each forecaster makes. As a matter of policy, HCFA and CBO forecast expenditures assuming no change in current law. The Department of Commerce, on the other hand, assumes expansion of health insurance coverage for a share of those currently uninsured.[10] The key difference between the CBO and HCFA forecasts is the use of alternative projections of economywide inflation rates. HCFA assumes 1.5 percentage points per year higher inflation, leading to higher forecasts of nominal GDP and national health expenditures. This difference alone explains almost all of the higher HCFA expenditure forecasts. The sensitivity of the results to economic assumptions can be seen by comparing CBO forecasts of the share of GDP devoted to health care released in October 1982 and February 1993.[11] Even though the second report projected 2.9 percent lower health spending by 2000, the projection of GDP growth was revised downward by even more—7.5 percent. Consequently, the estimated share of GDP devoted to health care was raised by 0.9 percentage points.

Table 1-2. Alternative Projections of the Rate of Increase in National Health Expenditures, 1992-2000 (In Percent)

Source	1992	1992-1995[a]	1995-2000[a]
Congressional Budget Office	10.7%	9.4%	8.4%
Health Care Financing Administration	11.3	10.4	9.6
Department of Commerce	11.5	13.5[b]	--

[a] Forecasted annual rate of change.

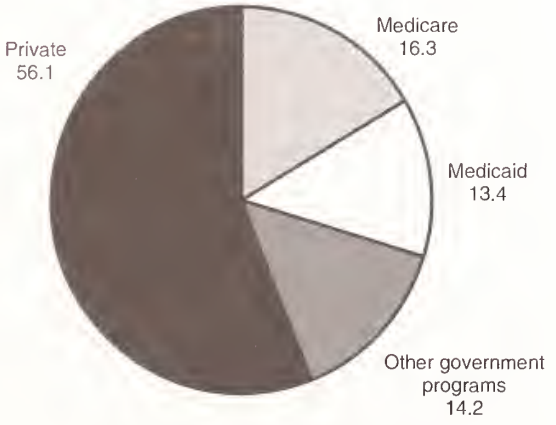
[b] Midpoint of a forecasted range.

Spending by Payment Source

Expenditures by Federal, state, and local governments accounted for almost 44 percent of national health spending in 1991, up from 42 percent in 1980 (see Figure 1-3). This consisted of about 16 percent for Medicare, 13 percent for Medicaid, and 14 percent for other government programs such as public health activities and services and coverage provided by the Department of Veterans Affairs and the Department of Defense. CBO forecasts that the government share will increase to about 51 percent by 2000. In 1991, more than 20 percent of the total population, or 50 million people, was covered by Medicare or Medicaid, and this is forecasted to increase to 25 percent by 2000.

The recent and projected increase in the government share reflects the more rapid growth of

Figure 1-3. National Health Expenditures, by Source of Payment, 1991 (In Percent)

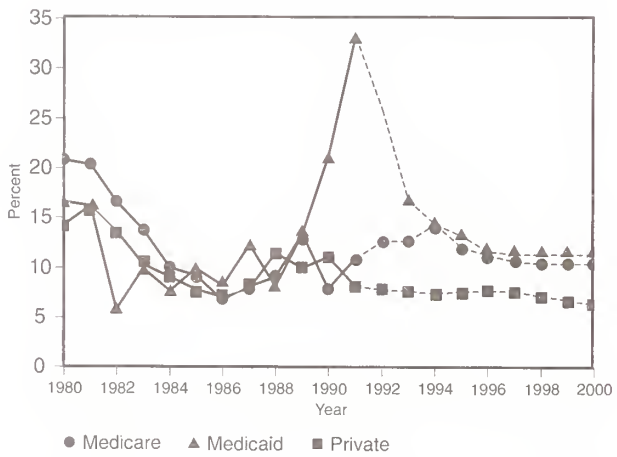


SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office.

Federal, state, and local government health spending compared with private sector expenditures. Medicare and Medicaid have also been growing faster than nearly all other components of the Federal budget. This has raised spending for these programs to 14 percent of Federal outlays in 1992—more than any other category except Social Security or interest on the national debt. These health spending increases have occurred despite a long history of efforts to restrain public sector expenditures.

Medicare expenditure growth slowed after 1981 but remained higher than the growth in either Medicaid or private spending until the Medicare prospective payment system for hospitals was implemented in 1984 (see Figure 1-4). Program expenditure growth subsequently declined relative to the other payer groups, even after taking account of changes in the number of enrollees (see Figure 1-5). This largely reflects a dramatic decline in the rate of growth in real per enrollee spending on inpatient care (see Figure 1-6). Total program spending has also been driven by growth in the number of enrollees, estimated at 2.4 percent per year in the 1980s and forecasted by CBO to be 1.3 percent per year in the 1990s. The savings from reduced growth in spending for hospital inpatient care were partially offset by continuing growth of other

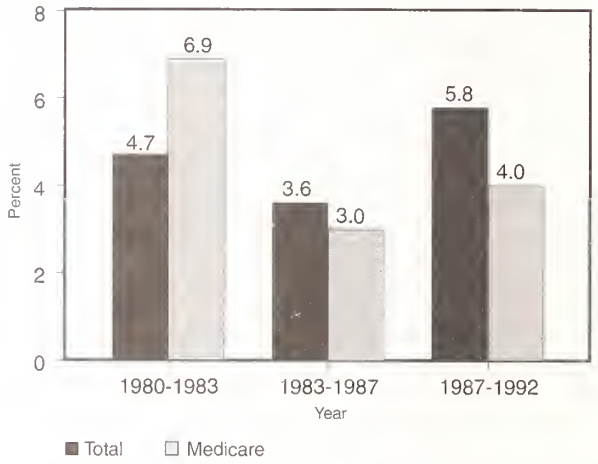
Figure 1-4. Change in Total Health Expenditures, by Source of Payment, 1980-2000 (In Percent)



Note: Projected for 1992 through 2000.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office for projections.

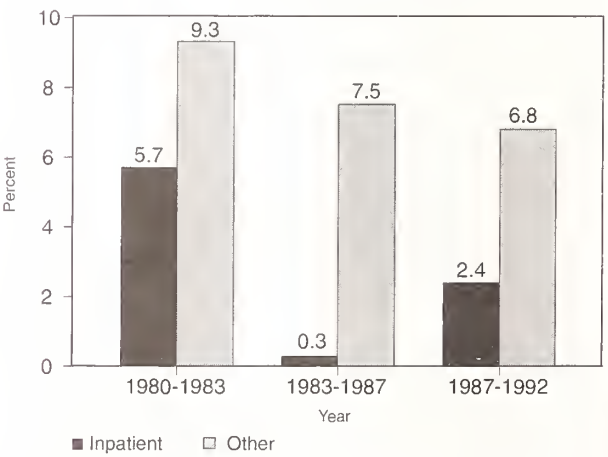
Figure 1-5. Real Annual Change in Total Health Care Expenditures Per Capita and in Medicare Expenditures Per Enrollee, 1980-1992 (In Percent)



SOURCE: Health Care Financing Administration, Office of the Actuary.

Medicare services, including physician and hospital outpatient services as well as nursing facility and home health care.[12] The projections for continuing growth of nursing facility and home health benefit payments, increases in the numbers of the disabled, and lower tax revenue have led the Medicare trustees to project that the Hospital Insurance Trust Fund will be insolvent sometime between 1998 and 2000.[13]

Figure 1-6. Real Annual Change in Medicare Inpatient and Other Expenditures Per Enrollee, 1980-1992 (In Percent)



SOURCE: Health Care Financing Administration, Office of the Actuary.

Medicaid has been characterized by numerous changes since 1980, some tending to increase and others to restrain program spending. In 1981, Congress broadened opportunities for states to control program costs. Many states responded by implementing new hospital payment systems or by simply limiting annual payment updates. Several states also initiated programs to manage the care of Medicaid recipients—for example, encouraging enrollment in health maintenance organizations (HMOs) or limiting choice of hospitals available for Medicaid care. Much of the reduction in Medicaid program growth starting in 1982 and running through 1986 probably reflects the effect of these 1981 legislative changes and ensuing state actions.[14]

Changes in eligibility rules in the late 1980s and other factors increased Medicaid spending at the end of the decade. The rise in Medicaid spending first exceeded that of Medicare and the private sector in 1987, and after 1989 total Medicaid expenditures grew much more rapidly than those of the other payers (see Figure 1-4). Although expanded disproportionate share payments played a significant role in this spending surge, research has suggested that an even larger factor was growth in the number of recipients. The Medicaid population rose about 1 percent per year between 1980 to 1988, but the increase in recipients accounted for 2.5 percentage points of spending growth in 1989, 7.5 percentage points in 1990, and 12 percentage points in 1991. Less than half of this enrollment increase is believed to have resulted from congressional mandates broadening eligibility, with the rest due to the recession and other economic factors.[15]

CBO forecasts a slowing of Medicaid spending growth beginning in 1993. The number of recipients is expected to increase more slowly—but still faster than the population as a whole—for the rest of the 1990s, and growth in disproportionate share payments has been capped under current policy.

Paralleling Medicare and Medicaid, the growth in private health care expenditures slowed in the mid-1980s and then began to climb slightly (see Figure 1-4). In 1991, the private sector increase was lower than that of either government program, and CBO forecasts this trend to continue through the rest of the decade. Even after 1993, when the surge in Medicaid spending is expected to end, the gap between private and public sector spending growth is forecasted to continue at about three percentage points per year.

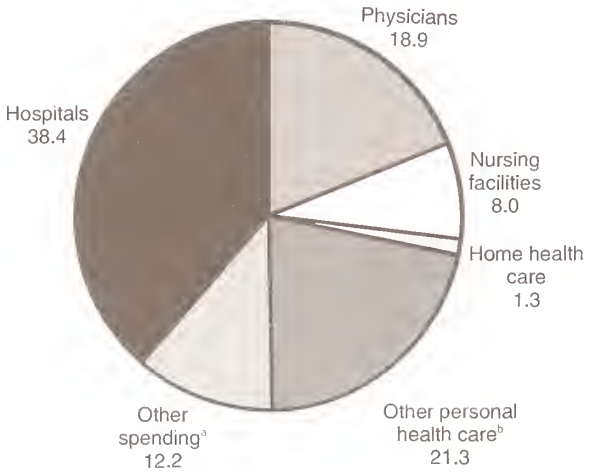
Several different factors appear to have contributed to this pattern. During the 1980s, private businesses and insurers introduced numerous changes to traditional health care financing arrangements—for example, preadmission review and other utilization control mechanisms—to reduce their expenditures for care. Enrollment in health maintenance organizations and other forms of managed care also increased greatly. Evidence suggests that these efforts had some degree of success in containing spending growth. The rate of increase in the private sector population has been less than that for either Medicare or Medicaid in recent years, which directly contributes to lower expenditure growth. But the rate of increase per privately insured individual has also slowed, supporting the role of cost containment efforts. As discussed in the following section, the proportion of the employed population without health insurance has been growing, and there is strong evidence that those lacking insurance coverage receive less care. This too may have held down expenditures for the private sector as a whole, defined to include all people not covered by Medicare or Medicaid. And finally, the substantial increase in Medicaid spending between 1989 and 1992 may have reduced the incentive for providers to shift costs to private payers, thereby moderating one source of pressure for higher private expenditures.

Spending by Health Care Sector

From 1980 through 1992, there were significant changes in the utilization, supply, and distribution of expenditures among provider groups. The use of hospital inpatient care has declined since the early 1980s, leading to a net reduction in the supply of hospital beds. Sites of care outside the hospital have become more important, with entirely new institutional arrangements such as ambulatory surgical centers evolving. (See Chapter 3.)

In 1991, 38 percent of national health expenditures—$289 billion—was accounted for by hospital care, down from 41 percent in 1980 (see Figure 1-7). During this period, hospital admissions and length of stay declined. (See Chapter 3.) Some of this volume decline was offset by the growth of outpatient care, however, as outpatient department

Figure 1-7. National Health Expenditures, by Sector, 1991 (In Percent)



Note: Numbers may not add to 100 due to rounding.

[a] Includes research, construction, public health activity, administrative costs of health insurers, and net cost of insurance.

[b] Includes dental services, other professional services, drugs and other medical non-durables, vision products and other medical durables.

SOURCE: Health Care Financing Administration, Office of the Actuary.

revenue rose to 24 percent in 1991 from 13 percent in 1980. Community hospitals account for about 85 percent of hospital spending, while Federal hospitals account for about 8 percent.

Expenditures for physician services accounted for $142 billion and 19 percent of the total in 1991, up from 17 percent in 1980. The physician sector growth of almost 12 percent annually over the 1980 to 1991 period was higher than that for hospitals, nursing homes, or several other major classes of spending (see Table 1-3). It reflected high rates of increase in prices for services, growth in utilization, and rising intensity of care. By 1991, physician expenditure growth had moderated to 10 percent per year.

Nursing homes account for about 8 percent of national health spending. Although dollar expenditures tripled between 1980 and 1991, from $20 billion to almost $60 billion, the share devoted to nursing homes remained unchanged. Home health spending constitutes only about 1 percent of national health expenditures, but this category has been one of the fastest growing. Its share doubled between 1980 and 1991. The annual increase was about 10 percent from 1983 through 1987, but then jumped to more than 30 percent through 1992.

Despite the frequent emphasis on physicians and various health care facilities, other personal health care services are also important, contributing more than one-fifth of total national health expenditures. These include dental services; other professional services (optometrists, podiatrists, and so forth); drugs and over-the-counter medical products; vision products; and medical durables (such as artificial limbs and wheelchairs). One-quarter of other personal health care spending is for retail prescription drug sales, a total that excludes drugs dispensed in hospitals, nursing homes, or the offices of health professionals.

HEALTH INSURANCE COVERAGE PROBLEMS

Despite the rapid growth in spending on medical care in the United States, problems with health insurance coverage still remain. Many people lack health insurance coverage altogether, while most of

Table 1-3. Change in National Health Expenditures, by Sector, 1980-2000 (In Percent)

Sector	1980-1983[a]	1983-1987[a]	1988	1989	1990	1991	1992[b]	1992-2000[b]
Hospitals	12.8%	7.2%	9.2%	9.6%	11.1%	11.8%	11.4%	9.1%
Nursing facilities	13.0	8.3	7.8	11.1	12.3	12.4	12.1	9.3
Home health agencies	28.2	9.7	9.9	24.4	34.4	29.0	42.7	15.9
Physicians	13.1	11.3	13.1	10.4	11.0	10.2	9.6	8.9
Other personal health care	11.9	9.5	9.3	9.3	11.0	11.3	9.7	8.4
Other spending	12.4	7.9	15.3	15.9	13.9	9.5	7.7	6.4

[a] Annual rate of change.

[b] Forecasted annual rate of change.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Congressional Budget Office for projections.

those who have coverage still pay a considerable amount for their care.

The Uninsured

The rising number of Americans without health insurance continues to strain the U.S. health care system. Nearly 17 percent of Americans under 65, or more than 36 million people, did not have health insurance in 1991, according to the March 1992 Current Population Survey. This represents an increase of 1.7 percent from 1990, while the U.S. population is estimated to have grown by only 1.1 percent during this period. Similarly, the number of uninsured rose by 1.4 percent from 1989 to 1990, while the population grew by 1.0 percent.

Health insurance coverage is closely tied to employment status. However, fewer employers are offering insurance to their employees, which drives up the number of uninsured. In 1990, 42 percent of firms with two or more workers offered health coverage, but this figure dropped to 40 percent in 1991. Small firms—those with fewer than 100 employees—are less likely than large ones to offer health coverage, largely because of the higher premiums they face. Only 32 percent of firms with fewer than 25 workers offered health coverage in 1991, down from 36 percent in 1990. A much higher proportion (81 percent) of firms with 25 to 99 workers offered health coverage in 1991, but this share has declined by six percentage points since 1990. Between 95 percent and 98 percent of firms with more than 100 workers continue to provide health coverage to their employees.[16]

Although workers are more likely than nonworkers to have private health insurance, surprisingly many employees and their dependents lack coverage. In 1991, 85 percent of the uninsured were in families headed by workers. More than 60 percent of the uninsured worked the entire year, and 53 percent worked full time. Within work status categories, 31 percent of the full-time or part-time workers who experienced some unemployment during the year were uninsured. However, a significant number of full-time workers who experienced no unemployment (14 percent) still lacked coverage. Fewer nonworkers (23 percent) than permanent part-time workers (28 percent) were uninsured, primarily because many unemployed people qualify for Medicaid or other state-sponsored insurance programs.[17]

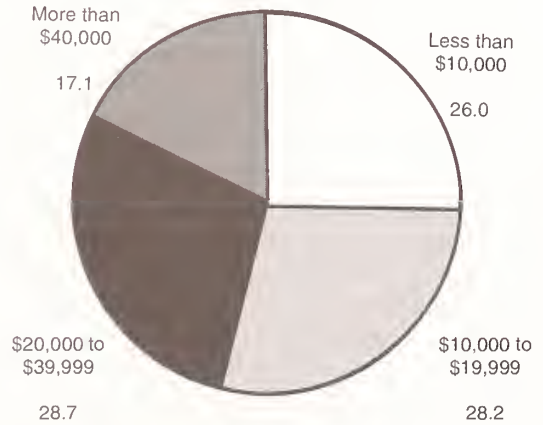
In addition to employment, health insurance coverage is closely linked to family income level. Typically, lower income families are less likely than others to have private health insurance coverage. In 1991, 26 percent of the uninsured were in families with incomes of less than $10,000 (see Figure 1-8). Although many low-income people are covered by public programs like Medicaid, coverage does not extend to all the poor. Only 52 percent of the nonelderly with incomes below the poverty level received publicly sponsored coverage in 1991.[18]

While a disproportionate share of the uninsured are poor, a significant number of the uninsured have middle to high income levels. About 29 percent of the uninsured are in families earning from $20,000 to $39,999; for 17 percent, family incomes exceed $40,000. Within income categories, more than a third of the people with family incomes of less than $10,000 are uninsured, but 16 percent of those in families earning from $20,000 to $39,999 and 7 percent of those earning more than $40,000 also lacked coverage.

Household Liability

Although health insurance provides some financial protection from the costs of health care, insured persons still pay for much of their care. Out-of-pocket spending by individuals, such as deductibles, coinsurance, and payments for services not covered

Figure 1-8. Nonelderly Uninsured, by Family Income, 1991 (In Percent)



SOURCE: Employee Benefit Research Institute analysis of the March 1992 Current Population Survey.

Table 1-4. Change in Household Health Care Spending and Employee Wages and Salaries, 1980-1991 (In Percent)

Measure	1980-1985[a]	1985-1990[a]	1991
Per person household spending[b]	9.3%	6.9%	6.2%
Out of pocket	8.7	6.5	4.6
Premiums	11.6	8.1	10.8
Wages and salaries all U.S.workers	5.9	4.2	4.1

Note: Health-related taxes paid by households are excluded.

[a] Annual rate of change.

[b] The denominator is the total population.

SOURCE: Health Care Financing Administration, Office of the Actuary, and the Department of Labor, Bureau of Labor Statistics.

by insurance, accounts for 41 percent of all expenditures by employers and individuals. Health insurance premiums paid by individuals are responsible for another 15 percent, bringing overall household spending to 56 percent of this non-government total.[19]

From 1980 to 1990, the annual rate of growth in per person household spending on health care declined by about two percentage points (see Table 1-4). In 1991, the increase continued to fall slightly, to 6.2 percent. However, workers have seen their health care costs rise faster than their wages and salaries. In 1991, for example, the average wage and salary increase for U.S. workers was 4.1 percent, about two percentage points below the increase in per person household health expenditures.

Individuals' premiums have been rising faster than their out-of-pocket spending. This is likely due to a combination of fewer employers offering health insurance (leaving more people to buy their own policies) and to more employers requiring greater premium sharing by employees for group policies. The lower and more rapidly declining rate of growth in out-of-pocket spending may be due primarily to increased enrollment in HMOs and other forms of managed care. Copayments tend to be lower in these programs and deductibles are either low or nonexistent.

ISSUES IN COST CONTAINMENT

The chapter thus far has documented a scenario of rapidly rising health care expenditures coupled with a declining rate of insurance coverage and increased financial burden for those who do have insurance. Health care is costing more in real dollar terms even as the assurance of access to care for all Americans deteriorates. Consequently, policy makers in the past several years have become increasingly interested in approaches that might permit greater control of provider costs, with the twin goals of making health care more affordable for all citizens and generating savings with which to fund expanded insurance coverage and benefits. Some of the key issues that must be addressed in developing policies and programs to contain health care costs are identifying the factors most responsible for stubbornly high cost growth in recent years; understanding the reasons that expenditures have continued to rise despite the emphasis on cost containment, particularly through PPS; and considering the potential for various cost containment mechanisms to better control health expenditures in the future.

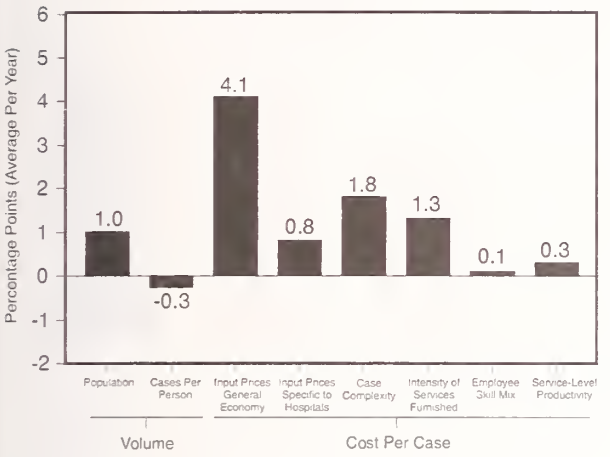
Factors Determining Growth in Provider Costs

Many reasons for excessive health care cost growth have been cited, as discussed earlier. It is very difficult to measure the effect of these phenomena on health care costs, but it is possible to break down provider cost increases into components, or factors. This is often useful in understanding and targeting cost containment efforts.

Decomposition of Hospital Cost Increases— ProPAC has developed a model that separates the total increase in hospital costs (covering both inpatient and outpatient services) into eight components. The first two, population growth and change in the number of cases (admissions and outpatient visits) per person, combine to determine change in the total number of cases, or volume of care. The last six govern the increase in cost per case. These are price inflation in the general economy (as measured by the Consumer Price Index for all urban consumers), input price increases specific to hospitals, case complexity change, change in the intensity of services furnished, change in employee skill mix, and change in service-level productivity.[20]

Over the 1985 to 1991 period, the average annual increase in total hospital costs was 9.5 percent (see Figure 1-9). Population growth was responsible for

Figure 1-9. Eight Factors Contributing to Growth in Hospital Costs, 1985-1991



Note: The average annual increase in total costs was 9.5 percent. The eight factors explain 97 percent of this change, leaving an unexplained residual of 0.3 percentage points per year.

SOURCE: ProPAC analysis based on data from the American Hospital Association, Health Care Financing Administration, and Department of Labor.

about 10 percent of this increase, or one percentage point per year. However, the number of cases (admissions and visits) per person actually declined, reducing costs by 0.3 percentage points annually. Population change, of course, is completely beyond the industry's control, whereas service use per person has been somewhat controlled through utilization review programs in the public and private sectors and the shifting of services to less expensive sites of care.

The largest single contributor to hospital cost increases has been general inflation, which was responsible for 4.1 percentage points per year, or 43 percent of the total. Because hospitals compete with other purchasers for labor and other goods and services, they have little if any control over this factor.

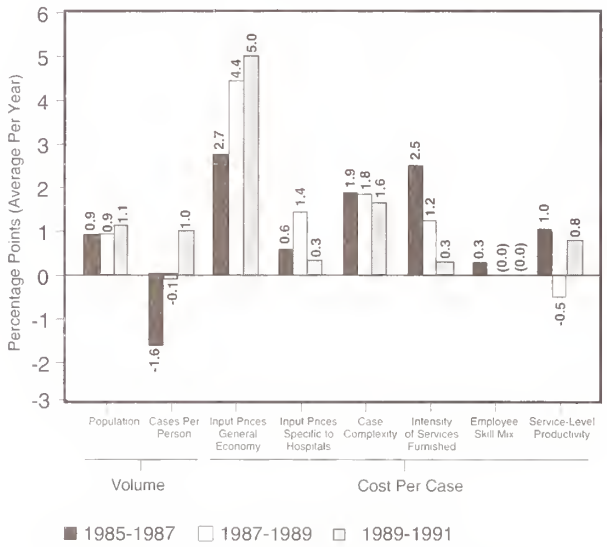
Price inflation specific to the hospital industry accounted for an additional 0.8 percentage points each year, or 8 percent of total cost growth. The most important components of hospital-specific inflation in recent years have been above average increases in wages and salaries, pharmaceutical prices, and malpractice premiums. Hospitals have relatively little potential for controlling the latter two, but wages and salaries present a mixed picture. On the one hand, shortages have pushed up wages for nurses and several other professional personnel categories. But on the other hand, part of the upward pressure on wages comes from the increased demand for personnel, which has averaged 3 percent annually since 1986. In addition, some of the largest hospital salary hikes have been in administrative categories where there have been no shortages. For example, a Healthcare Financial Management Association survey found that the average salary of hospital chief financial officers rose 31 percent from 1989 to 1991.[21] This increase undoubtedly reflects the practice of filling positions with more experienced managers as well as granting large salary increases, but it nevertheless contributes to cost growth.

Change in patient complexity, or case mix, was found to have accounted for 1.8 percentage points of cost growth annually and intensity of service change (holding case mix constant) another 1.3 points. The Commission has held that real case-mix change, including case complexity change within diagnosis-related groups (DRGs), is outside of hospital control and therefore should be fully accounted for in PPS payment increases. But the Commission believes that intensity increases above the level of real case-mix change are not entirely beyond hospital control. It should be possible to fund the portion of these increases that results from the effect of technological advances through productivity improvement. Productivity actually declined during the 1985 to 1991 period, however, accounting for about 0.3 percentage points of additional cost growth each year rather than providing a means to offset the impact of new technology.

The relative contribution of the eight factors in ProPAC's model has changed markedly over the last six years. The number of cases per person went from reducing cost growth by 1.6 percentage points per year in 1985 through 1987 to raising costs by a full percentage point from 1989 to 1991 (see Figure 1-10). The total volume effect (encompassing population growth and change in cases per person) is now responsible for a full two percentage points of annual cost growth, pushing the total cost increase above 10 percent in both 1990 and 1991 (see Figure 1-11).

Virtually all the volume surge in recent years has occurred in hospital outpatient departments.

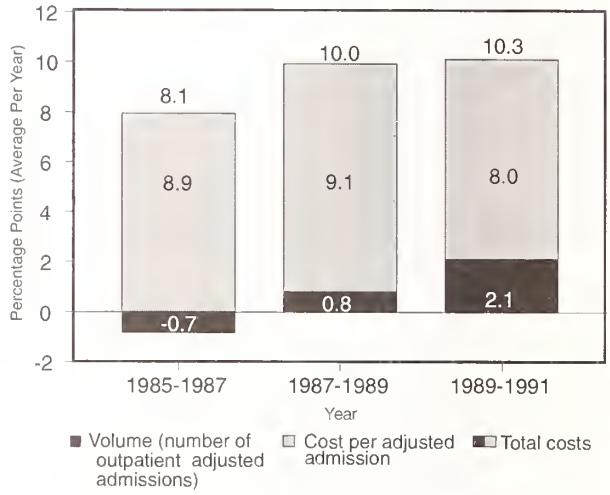
Figure 1-10. Change in Eight Factors Contributing to Growth in Hospital Costs, 1985-1991



Note: The average annual increase in total costs was 8.1 percent for 1985-1987, 10.0 percent for 1987-1989, and 10.3 percent for 1989-1991.

SOURCE: ProPAC analysis based on data from the American Hospital Association, Health Care Financing Administration, and Department of Labor.

Figure 1-11. Change in the Contribution of Volume and Cost Per Case to Growth in Hospital Costs, 1985-1991



Note: Change in volume plus change in cost per case roughly equal the change in total costs. The measurement is affected by rounding and interaction effects.

SOURCE: ProPAC analysis based on data from the American Hospital Association, Health Care Financing Administration, and Department of Labor.

This may partly represent a shift from the physician sector, but much of the increase is believed to emanate from increased demand for surgeries and diagnostic procedures. In the current system, the effect of increased outpatient demand is largely outside of hospital control, since virtually all the relevant procedures are ordered and usually performed by physicians. When outpatient care is ordered within the context of managed care, however, financial incentives can be constructed for participating physicians to monitor and control utilization.

While the impact of volume increased in the last two years, the growth in cost per case was moderating somewhat. The rise in cost per adjusted admission was 9 percent per year from 1985 through 1989, but dropped to about 8 percent through 1991.

In the first two-year analysis period, 1985 to 1987, the primary per-case cost driver (beyond general inflation) appeared to be changes in intensity of services. This factor alone was responsible for a 2.5 percent annual cost increase, reflecting substantial growth in the use of special care units and various ancillary services. Upgraded employee skill mix was also a factor at that time, as hospitals substituted registered nurses for licensed practical nurses and aides.

In the second two-year period, 1987 to 1989, the impact of intensity of service increases was cut in half and skill mix upgrading disappeared as the shortage of registered nurses set in. However, these developments did not result in lower cost growth, because both general price inflation and hospital-specific inflation rose dramatically.

In the third period, 1989 to 1991, growth in intensity of services continued to moderate, accounting for only 0.3 percentage points of annual cost growth. This suggests that hospitals have had some success in controlling the quantity or mix of ancillary services used in producing admissions and outpatient visits. Hospital-specific price inflation has also moderated, particularly smaller wage and salary increases relative to CPI change as the shortages of professional personnel abated. Premiums for malpractice insurance actually declined marginally during this period. However, since these premiums are cyclical, whether this trend will continue is uncertain.

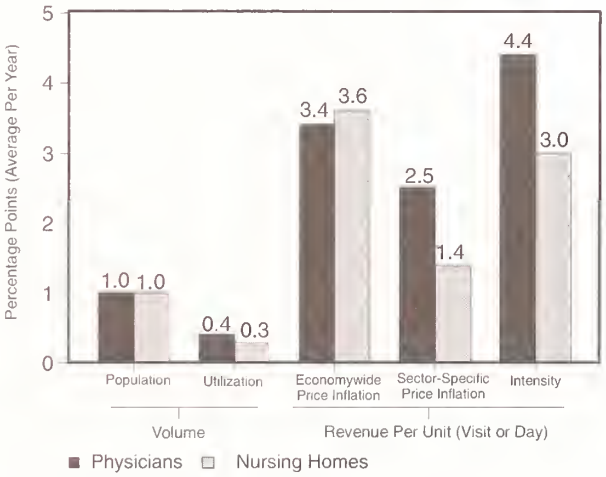
Offsetting some of these favorable developments from 1989 to 1991, however, were the highest general price inflation in several years, which raised costs by about five percentage points annually, and worsening productivity performance, which accounted for 0.8 percentage points of cost growth. The effect of productivity declines was slightly greater from 1985 to 1987, but that outcome is less compelling because it occurred during a period of falling volume. Volume declines tend to raise the cost of producing an admission or visit, because fixed inputs such as equipment and management salaries must be spread over fewer units of output. The productivity declines of the last two years, on the other hand, occurred during a period of significantly expanded utilization, as discussed above. During the middle period of analysis, 1987 to 1989, hospitals raised their productivity sufficiently to lower costs by 0.5 percentage points. This is consistent with the productivity growth targets that the Commission has established in recent years as part of its PPS payment update recommendations.[22]

Even though the gap between hospital wage and salary increases and growth in the CPI narrowed considerably from 1989 through 1991, hospital employees still fared better than workers in the rest of the economy. Historically, wage increases and price inflation in the general economy have run in tandem. During the recession years of 1990 and 1991, however, wage increases in most industries lagged behind the cost-of-living increase, while hospital workers' wages at least stayed ahead of inflation.

Decomposition of Other Provider Costs—The Health Care Financing Administration has identified five factors responsible for expenditure growth by type of provider: population, utilization, economywide price inflation, medical price inflation, and intensity. The first four of these are conceptually similar to those in ProPAC's model for the hospital sector discussed previously. The fifth, intensity, is a broad residual measure that encompasses four of the more specific factors in ProPAC's model: case complexity, intensity of services, service-level productivity, and employee skill mix.[23]

Over the 1985 to 1990 period, the contribution of factors completely external to health care—population growth and general inflation—had a similar impact among the physician, nursing facility, and hospital sectors as would be expected. Utilization changes, on the other hand, contributed nearly one-half a percentage point to expenditure growth in both the physician and nursing facility sectors, compared to reducing costs by a half point in the hospital sector (see Figures 1-9 and 1-12). The largest differences are found in the remaining factors—sector-specific price inflation and intensity increases—where there is at least some possibility for provider control. These factors added 6.9 percentage points per year to physician expenditure growth, suggesting that the combination of rising physician fees and increasing service content for physician visits has had a significant effect. For nursing facilities, by contrast, these factors were responsible for 4.4 percentage points, and for hospitals, a roughly comparable figure from ProPAC's analysis is 5.0 percentage points.

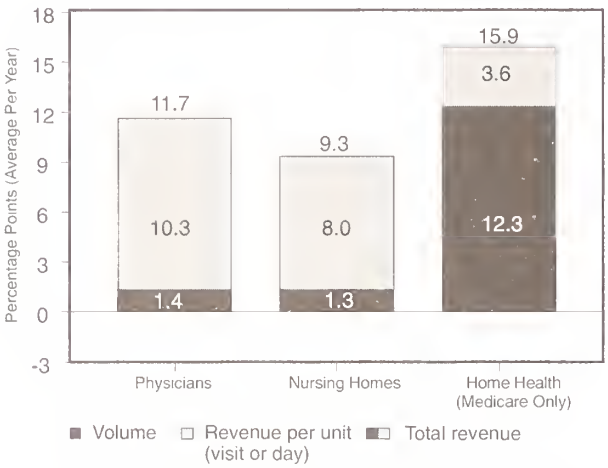
Figure 1-12. Five Factors Contributing to Growth in Physician and Nursing Home Expenditures, 1985-1990



SOURCE: ProPAC analysis of data from Sally Sonnefeld and others, "Projections of National Health Expenditures Through the Year 2000," *Health Care Financing Review* 13(1):1-27, Fall 1991, Table 10.

The impact of volume increases, combining population growth and increased visits per person, was 1.4 percentage points per year for physicians, or about 12 percent of the total cost growth (see Figure 1-13). However, it must be remembered that this measurement of volume is confined to the number of physician visits. A major portion of the expenditure effect included within HCFA's broadly defined intensity category is attributable to case-mix change—the substitution of more complex

Figure 1-13. Contribution of Volume and Revenue Per Visit or Per Day to Growth in Expenditures for Physician, Nursing Home, and Home Health Care, 1985-1990



Note: Change in volume plus change in revenue per unit roughly equal change in total revenue. The measurement is affected by rounding and interaction effects. Home health data are preliminary.

SOURCE: ProPAC analysis of unpublished data from the Health Care Financing Administration, Bureau of Data Management and Strategy; and Sally Sonnefeld and others, "Projections of National Health Expenditures Through the Year 2000," *Health Care Financing Review* 13(1):1-27, Fall 1991, Table 10.

procedures or visits (when separate billing categories are used). Whether this factor should be considered as part of volume or intensity (which is part of price) depends on the context of the issues being considered. Most physician payment systems set rates for many different visit codes, and practitioners gain the full benefit of providing more complex visits along with the benefit of a greater number of visits. In this context, it might be more appropriate to consider case mix as within the rubric of volume. However, HCFA was prevented by data constraints from taking this approach in the analysis presented in Figure 1-13.

Volume increases (as measured by number of patient days) have accounted for 1.3 percentage points per year, or 14 percent of expenditure growth, in the nursing facility sector. But in recent years there is believed to have been a substantial escalation in case mix, or the severity of the average patient treated by nursing facilities. As with the physician sector, the impact of this phenomenon is included within HCFA's broad intensity factor, but it might be considered an aspect of volume.

Data for home health agencies are available only for Medicare patients. Within this portion of the home health sector, volume has been responsible for 12.3 percentage points of expenditure growth annually, or more than three-quarters of the total, even without considering the possible effect of case-mix change. As discussed earlier in the chapter, this is due primarily to expansion of Medicare benefits for home health care.

Cost Shifting as a Barrier to Cost Containment

Cost containment efforts in the health care field are influenced and often inhibited by the complex organization of resources used in the delivery of care and the pluralistic financing system. There are overlapping sites of care for many types of treatment, such as private physicians' offices, free-standing clinics, and hospital outpatient departments for ambulatory care services. In most health care settings, payment for services combines various government programs and private insurance mechanisms with direct payment by patients and employers. Thus, cost containment initiatives that affect only one segment of the delivery or financing system have limited ability to control the overall rate of increase in health spending. Further, these efforts often have unintended consequences in other parts of the health care system that partly offset their cost containment potential.

Because acute care hospitals form the largest single component of the health care delivery system, they have been the focus of many cost containment proposals. One approach to controlling costs is through prospective payment systems using DRGs to group patients and measure their anticipated resource requirements. This became possible for hospital acute care services in the early 1980s. In recent years, advancements in output measurement techniques and data quality have made it feasible to begin considering cost containment through prospective payment methods for other services.

The DRG-based prospective payment system for Medicare inpatient services has been one of the key initiatives in the national effort to contain health

care costs for nearly a decade. The average increase in total hospital costs per case was held to just over 7 percent in the first year of PPS (1984) and to about 8 percent in the second year. Subsequently, hospital cost growth returned nearly to pre-PPS levels, averaging more than 9 percent for the next four years. As discussed earlier, the increase moderated to about 8 percent in 1990 and 1991, which may portend better industry cost performance in future years.

During this eight-year period, PPS payments per case rose an average of 7.5 percent per year, reasonably close to the 8.5 percent average annual increase in per-case costs. However, this comparison is heavily influenced by the experience of 1984 and 1985, when Medicare payments were unexpectedly high during the implementation of prospective payment. In the six years since this transition period, the per-case PPS payment increases have averaged 5.2 percent annually, while the corresponding annual cost increase was 8.7 percent. Obviously, the expected slowing of the growth in hospital costs in response to PPS has not materialized.

The primary reason for the industry's ability to keep spending increases above the target level set by Medicare payment policy is that most hospitals have generated sufficient revenue from other sources to make up losses they incur from below-cost payments. Much of this revenue comes from charging privately insured patients more than the cost of their care—usually referred to as cost shifting. Hospitals accomplish cost shifting primarily by raising their charges, or the "list prices" of their services. This drives up payments for any third-party payer that pays full charges or that has negotiated a percentage discount from charges. The cost shifting strategy appears to have been most pronounced for outpatient services, but has been used extensively for inpatient care as well.

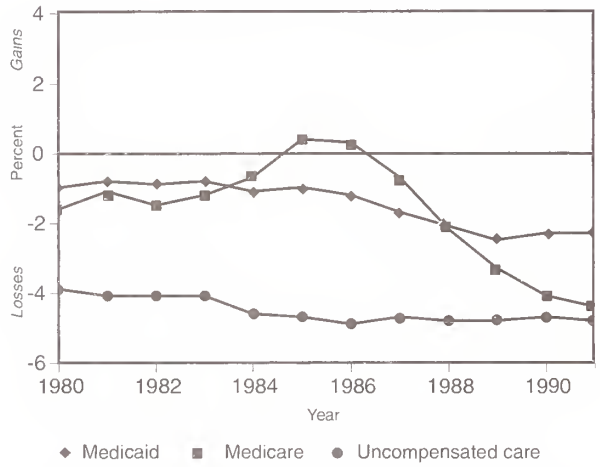
Hospitals have also produced additional revenue from non-patient care sources, such as philanthropic contributions, profits from business ventures, and government operating subsidies. Since PPS began, government operating subsidies have increased less than overall hospital costs, but all other non-patient care revenue sources have outpaced hospital cost inflation. Since 1984, non-patient care revenue (including government subsidies) has risen from 4.3 percent to 4.9 percent of total hospital revenue.[24]

The Reason for Cost Shifting—Cost shifting, supplemented by non-patient care income, generates revenue from some payers to offset losses from others. Hospitals have used excess revenues from private insurers to cover losses from uncompensated care (encompassing both charity care and bad debts) and from Medicaid and Medicare. A loss in this context is the difference between payments hospitals receive from a certain payer and the estimated costs of treating the patients covered by that payer. For Medicaid and Medicare, hospitals can avoid losses by constraining their cost increases as well as pursuing alternative revenue sources. And even for uncompensated care, losses could be reduced significantly over time by lower cost growth. It must also be remembered that, while cost shifting has been a major revenue source in aggregate, some hospitals are far less able than others to shift costs because they treat few patients whose payment is tied to charges.

For the first half of the 1980s, cost shifting was primarily in response to uncompensated care. In the middle of the decade, when PPS margins were positive, uncompensated care net of state and local government subsidies accounted for as much as 90 percent of all inpatient and outpatient losses. Further, these net uncompensated care losses grew from 3.9 percent to 4.9 percent of total hospital costs during this period (see Figure 1-14). But the impact of uncompensated care peaked in 1986 and has actually fallen slightly as a percentage of hospital costs since then. This relative decline largely reflects the expansion of Medicaid eligibility, which shifted many non-paying patients into the Medicaid category. Another possible factor, however, is tighter screening policies for accepting non-urgent patients in hospital emergency rooms. The practice of referring uninsured patients to public clinics when they do not require immediate attention has become more prevalent in recent years, and many of these clinics are located outside of hospital settings.

As uncompensated care stabilized, Medicaid losses began surging upward. After having hovered around 1 percent of costs through 1985, these losses nearly quadrupled in just four years, reaching

Figure 1-14. Losses as a Percentage of Total Hospital Costs for Medicaid, Medicare, and Uncompensated Care, 1980-1991



Note: For each payment source, losses are the difference between the cost of providing care and the payment received. Operating subsidies from state and local governments are considered payments for uncompensated care patients.

SOURCE: ProPAC analysis of American Hospital Association Annual Survey data.

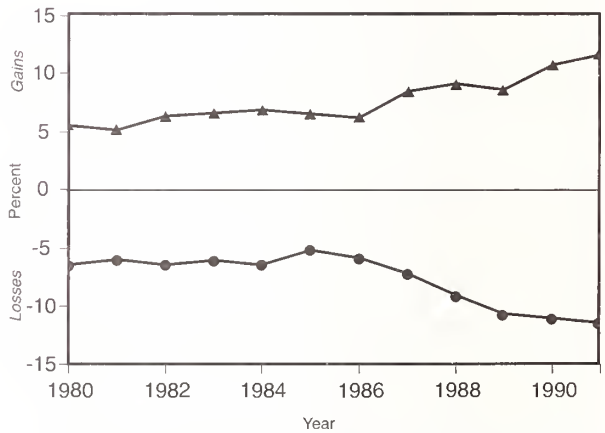
2.5 percent of total costs in 1989. At this point, these losses also stabilized as a percentage of costs. As discussed earlier, state tax and donation proceeds leveraged substantial increases in Federal Medicaid funding in the late 1980s and into the 1990s; much of this money was used to increase provider payment levels through the disproportionate share mechanism.

With both uncompensated care and Medicaid payments stable, further cost shifting resulted primarily from hospital costs rising faster than Medicare payments. PPS margins were still positive in 1986, but since then Medicare losses have increased to a level equal to 4.4 percent of total hospital costs. This is nearly as high as uncompensated care losses. The legislated Medicare payment updates together with preliminary cost data from the American Hospital Association (AHA) National Hospital Panel Survey suggest that Medicare losses may have equaled uncompensated care costs in 1992.

As noted earlier, the eight-year average of PPS per-case payment increases, resulting from the combination of payment updates and rising case-mix index values, was 7.5 percent per year. This is slightly less than it would have been if Congress had provided the full PPS update recommended by ProPAC. The Commission believes that the level of its recommendations, on average, should be sufficient to meet the growth in hospital per-case costs. A significant portion of the patient care losses during the 1980s, including virtually all the proportionate increase in these losses since 1989, would not have occurred had hospital cost increases been consistent with Medicare payment hikes since PPS began.

The Impact of Cost Shifting—Besides the issue of whether hospital cost increases should have been kept in line with government payment increases, a major question posed by these loss trends is whether private insurers should or are able to avoid having the ever-expanding losses shifted to them. Looking at private insurers as a single group, the evidence through 1991 is that hospitals have been able to generate gains from the private sector that nearly mirror their total losses from Medicare, Medicaid, and uncompensated care.[25] Both total gains and total losses have gone from close to 7 percent of total expenses before PPS to about 6 percent in the first two years of prospective payment, and then climbed steadily upwards to almost 12 percent by 1991 (see Figure 1-15).

Figure 1-15. Total Losses and Total Gains as a Percentage of Hospital Costs, 1980-1991

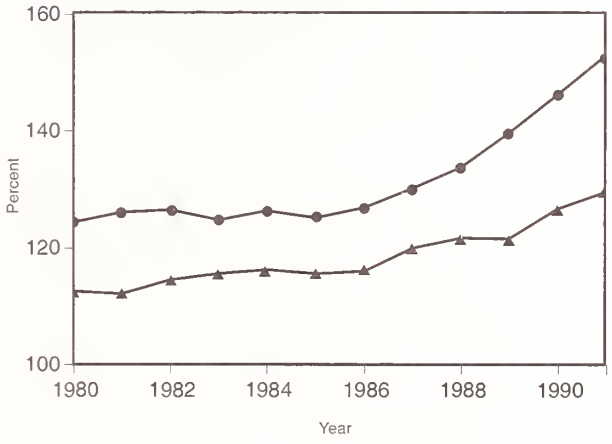


Note: Gains and losses are the difference between the cost of providing care and the payment received. Operating subsidies from state and local governments are considered payments for uncompensated care patients. Excludes non-patient care income.

SOURCE: ProPAC analysis of American Hospital Association Annual Survey data.

In 1991, the Medicare program covered 88 percent of the cost of treating its patient load (inpatient and outpatient), down from 94 percent just three years earlier (see Table 1-5).[26] The state Medicaid programs in aggregate paid 82 percent of their patient costs, up from a low of 76 percent two years earlier.[27] Though accounting for only a small proportion of hospital patient care, other government programs (such as the CHAMPUS program within the Department of Defense, workers' compensation, and local indigent care programs) on average made payments exactly equal to costs in 1991. Finally, only about 20 percent of uncompensated care costs were covered in the form of operating subsidies from state and local governments. To generate sufficient gains to maintain total margin levels, hospitals obtained payments covering almost 130 percent of the cost of treating privately insured patients.[28] And there would have been even more pressure to raise charges without the benefit of non-patient care income, which covered about 4 percent of hospitals' costs.

Figure 1-16. Hospital Charges and Private Payer Payments as a Percentage of Costs, 1980-1991



SOURCE: ProPAC analysis of American Hospital Association Annual Survey data.

Although these aggregate statistics provide an overall hospital revenue framework, they do not reflect the tremendous variation in the level of payments made relative to costs. In 1991, hospitals set their charges, on average, at 153 percent of their costs (see Figure 1-16). Billed charges can be viewed as the high end of the payment-level spectrum, and a significant (but declining) minority of private insurers pay hospitals at this level. At the low end of the spectrum are the state Medicaid programs, which on average in 1991 paid only slightly more than half as much relative to the costs of treating their patients as did insurers paying billed charges.

Table 1-5. Gains and Losses on Payment for Hospital Services, by Source, 1991

Payment Source	Payment to Cost Ratio	Gain or Loss (In Billions)
Below-cost payment		
Medicare	88.4%	-$10.0
Medicaid	81.6	-5.1
Uncompensated care	19.6*	-10.8
Total		-25.9
Above-cost payment		
Private insurers	129.7	26.1
Other government payers	100.1	0.0
Total		26.1

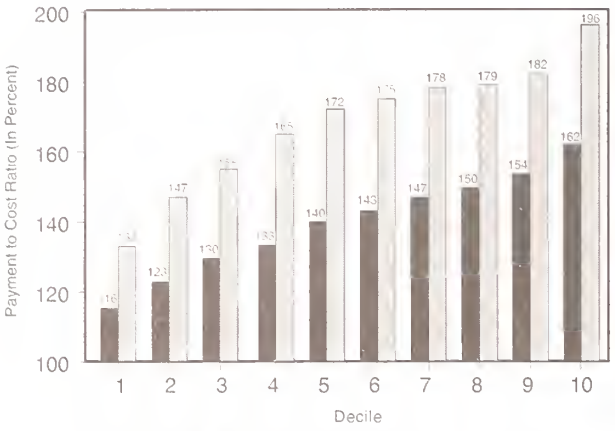
* Operating subsidies from state and local governments are represented as payments for uncompensated care.

SOURCE: ProPAC analysis of American Hospital Association Annual Survey data.

There is also tremendous variation in payment levels by private insurer (including individual HMOs) and by employer group. Although there is no publicly available data source for analyzing payment levels for specific insurance companies, ProPAC used data from MEDSTAT Systems, Inc., to calculate the average relationship between costs and payments for 69 large employers.[29] In aggregate in 1991, these employers or their insurance agents paid inpatient rates equivalent to 138 percent of the hospital costs attributable to patients covered by their plans. But comparing specific employers, payments for inpatient care ranged from 93 percent of the costs incurred by the employer's patients to about 172 percent, nearly twice as much. Overall, the 10 percent of inpatient care paid for at the most favorable terms to the payer covered 115 percent of associated costs, while the 10 percent made at the least favorable terms covered 162 percent (see Figure 1-17).

On average, outpatient payments were much higher relative to associated costs—166 percent—than were inpatient payments among the

Figure 1-17. Distribution of Hospital Inpatient and Outpatient Payments as a Percentage of Costs for 69 Large Employers, 1991



Note: Each decile represents 10 percent of the total payments for services made in 1991 by employers in the study. The values shown are the ratio of the payments received to the cost of care for the patients in each decile.

SOURCE: MEDSTAT Systems, Inc., under contract to ProPAC and using hospital-specific cost to charge ratios calculated by ProPAC

69 study employers. And the variation in payments was also greater for outpatient services. The 10 percent of outpatient care paid for at the lowest rates covered 133 percent of costs, while the 10 percent paid for at the highest rates covered 196 percent.

The aggregate payment to cost ratio among the employers represented in the data used for this analysis is higher than the aggregate for all hospital care provided in the private sector nationally. This may be due partly to the lack of a representative sample of employers, including the possibility that a history of unacceptably high payment levels contributed to the decision of some clients to subscribe to the MEDSTAT reporting system. In addition, the data reflect little care by health maintenance organizations; specifically, data for individual practice association HMOs only are included. While data on staff and group model HMOs are not available, these organizations generally are thought to be able to negotiate favorable discounts from hospitals. Most of their payment to cost ratios probably fall toward the lower end of the distribution shown in Figure 1-17.

During the first half of the 1980s, the ratio of full charges to costs nationally held steady at about 125 percent (see Figure 1-16). However, as Medicare payments failed to keep pace with hospital cost increases and more insurers negotiated discounts off charges with individual hospitals, the ratio has risen dramatically. Consequently, the range between the average payments and the highest payments made in the private insurance market has widened from only nine percentage points in 1985 to 23 percentage points in 1991. This means that cost shifting has led to deterioration in the equity of hospital payments within the private sector and between the private and public sectors, in addition to providing an avenue for hospitals to escape the measure of cost containment desired by Federal policy makers.

Cost Containment Potential for the Future

A variety of potential mechanisms to encourage cost containment have been proposed in recent years, and many have been discussed in the context of reform proposals at the national and state levels. These include relaxing Federal antitrust standards, implementing tort reform, expanding Federal incentives to encourage enrollment in HMOs, implementing managed competition with limits on the deductibility of premiums, reintroducing certificate of need review or other capacity controls, and prohibiting physician referral to facilities in which they have a financial interest. In addition, various mechanisms for directly controlling revenue flows have been discussed, among them all-payer rate setting systems, regulation of insurance premium increases, and an optional or mandatory Medicare-based rate setting system in the private sector.

The research to date on the effectiveness of these various cost containment mechanisms is far from complete or conclusive. However, evidence has emerged recently to support the cost control potential of two of the leading strategies discussed in the context of health care reform—provider rate regulation and managed care.

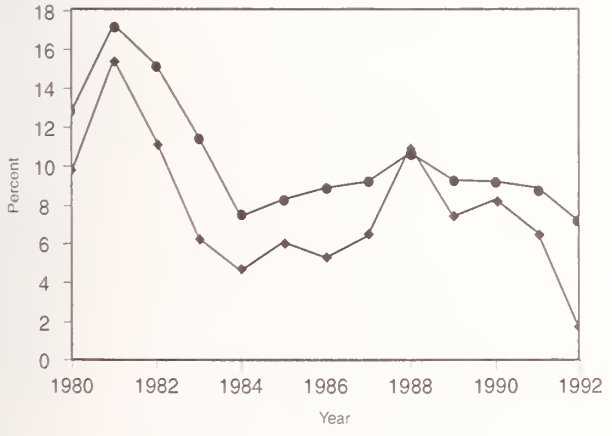
Looking first at rate regulation, Maryland has the longest experience of any state in regulating hospital payment rates for all payers. This system, managed through a state-chartered commission, has been in full operation since 1976. Although several

qualifiers must be kept in mind, the rate of increase in costs per adjusted admission for hospitals subject to rate setting in Maryland has been lower than the national average increase in all but two years since its inception. Maryland's cost per case went from 25 percent above the national average in 1975 to 14 percent below average in 1992. But perhaps most compelling of all is the fact that the largest single-year difference occurred in 1992, when the per-case cost increase in Maryland was 5.6 percentage points lower than the increase nationwide (see Figure 1-18). However, the other state experiments with rate regulation have neither lasted as long nor produced the results of the Maryland program.[30] In addition, the system does not have an impact on cost growth in other health care sectors.

For managed care, 1992 was also an important year. Although there are again significant qualifiers, a Foster Higgins survey of more than 2,400 employers found that the premiums for managed care plans rose from four to six percentage points less than those of traditional indemnity plans. Specifically, the increase was 8 percent for point-of-service plans, 9 percent for health maintenance organizations, 11 percent for preferred provider plans, and 14 percent for indemnity plans (see Figure 1-19). There was a more modest advantage for managed care plans in 1990 and 1991.[31] In this case, it must be pointed out that some observers believe that part of the reason managed care plans have outperformed indemnity insurance is because they find ways to minimize the number of high risk individuals they cover.

To be effective in controlling overall health care expenditures, the set of cost containment strategies used must be comprehensive in terms of the types of services or providers covered, the payers included, and the control of both price and volume. The rate regulation and managed care programs operated today suffer from fragmentation along all three of these dimensions. Besides applying to only one or two provider groups, rate regulation as operated in Maryland and other states controls only the payment per admission or visit. In theory, a volume performance standard much like the one used for Medicare physician payment could be introduced to constrain volume increases, but this approach is untested. In the case of managed care, along with applying only to privately insured patients, its incentives apply primarily to control of volume

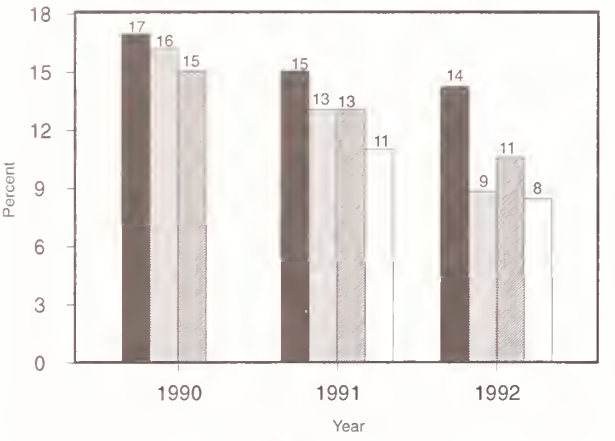
Figure 1-18. Change in Hospital Cost Per Case, Maryland and the United States, 1980-1992 (In Percent)



Note: Includes inpatient and outpatient costs and uses outpatient-adjusted admissions.

SOURCE: American Hospital Association Panel Survey and the Maryland Health Services Cost Review Commission.

Figure 1-19. Change in Per Person Health Benefits Spending, by Type of Insurance Plan, 1990-1992 (In Percent)



Note: Includes premiums and premium equivalents for self-insured employers.

SOURCE: Health Insurance Association of America Health Care Benefits Survey for 1990 and 1991, and Foster Higgins Health Care Benefits Survey for 1992.

rather than to payment per unit of service. HMOs negotiate discounts with hospitals and other providers, but this may only shift revenue requirements to other payers rather than reduce cost growth. Across-the-board use of managed care plans that can negotiate provider payment rates may hold more potential for cost containment, but this is again largely untested.

Maryland's experience suggests that rate regulation and managed care can be used in tandem. Almost 26 percent of the state's population is enrolled in HMOs, the seventh highest proportion among the 50 states.[32] And this level of penetration was achieved despite the fact that insurers are not allowed to negotiate payment discounts. HMOs pay hospitals the same charges as all other payers in Maryland.[33] Whether the large scale and combined use of managed care and rate regulation would help constrain total per capita costs is, of course, unknown. However, ProPAC has begun a research project to measure and analyze Medicare per capita costs by state, with adjustments for cost-of-living differences across the states, patient migration between states, and use of military and Veterans Administration facilities. The results of this study may shed light on the relative effectiveness of different combinations of cost containment strategies used at the state level in recent years. Preliminary results are expected later in 1993.

CONCLUSIONS

The Commission believes that the current level of inflation in health care costs is not sustainable; cost containment will be vital to efforts to reform the nation's health care system. Failure to reduce the double-digit cost increases of hospitals and other providers documented in this chapter may jeopardize the nation's ability to provide coverage to the uninsured. It may even further erode the breadth of today's insurance coverage. Additionally, the consequences of spiraling health expenditures reach beyond health care. They may limit workers' wage and salary increases; harm private industry's competitiveness in overseas markets; and constrain America's ability to fund other important activities like education, social services, and infrastructure improvements.

Experience with the Medicare and Medicaid programs during the past decade demonstrates that government spending for hospital services can be controlled through prospective payment, but with less impact on controlling the costs of producing services. With much of the private insurance market's hospital payments unconstrained, the Medicare program does not have adequate leverage to hold down the increase in overall hospital costs.

For nearly two decades, there have been myriad governmental and private cost containment initiatives. During the 1970s, the primary emphasis was on controlling the supply of health care resources through health planning and certificate of need programs. In the 1980s, the emphasis changed toward controlling payment for services, with prospective payment methods used for many hospital, nursing facility, and physician services. Simultaneous with attempts to control cost growth through payment policy, the private insurance market has become more competitive. This competition is characterized by more volume control through managed care arrangements, increased contract negotiating between providers and payers, and heightened consumer education about prices. Despite evidence of some of these mechanisms contributing to cost containment for certain services in select geographic areas, none has established a consistent track record in curtailing aggregate cost growth.

As the health care reform debate continues, informed decisions must be made regarding how to constrain provider cost increases as insurance coverage is expanded. While no single approach is necessarily the best, the cost containment program eventually adopted clearly cannot rely solely on payment mechanisms in existing government programs. Cost containment strategies must encompass the entire health care delivery system, applying to both the volume of services and expenditures per service unit in each sector and to all health care payers.

Notes to Chapter 1

1. National health expenditures include personal and all other spending on health care. Personal health care expenditures are for services obtained from hospitals, physicians, nursing homes, home health care agencies, dental providers, and other health professionals, as well as drugs, medical durables and nondurables, vision products, and miscellaneous other personal health care. Other expenditures on services and supplies include the expenses of public and private insurers (costs of program administration and net cost of insurance) and government public health spending. Also included in aggregate national health expenditures are the costs of research and construction. Data on national health expenditures are compiled and published by HCFA, with breakdowns by type of spending (for example, hospitals) and source of funds (for example, Medicare).

2. Council of Economic Advisers, *Economic Report of the President 1993* (Washington, DC: U.S. Government Printing Office, 1993) 377.

3. U.S. Congress, Congressional Budget Office, "Updated Projections of National Health Expenditures," internal memorandum, February 19, 1993.

4. Research finds that a higher Medicare share of residents in Medicare-certified SNFs was associated with a decline in share for private pay and Medicaid patients in 1988 and 1989. The study does not estimate effects on expenditures. See Korbin Liu and Genevieve Kenney, "Impact of the Catastrophic Coverage Act and New Coverage Guidelines on Medicare SNF Utilization," unpublished paper, September 1992.

5. Prospective Payment Assessment Commission, *Medicaid Hospital Payment*, Congressional Report C-91-02, October 1, 1991, 34.

6. Data on industrialized nations pertain to the members of the Organization for Economic Cooperation and Development.

7. U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States 1992*, 112th ed. (Washington, DC: U.S. Government Printing Office, 1992) 138, 451; and Council of Economic Advisers, *Economic Report 1993*, 348.

8. All GDP shares are for 1987, when the U.S. share was 11.2 percent. The range excludes Turkey, which had an unusually low value of 3.5 percent. See George J. Schieber and Jean-Pierre Poullier, "Overview of International Comparisons of Health Care Expenditures," *Health Care Financing Review*, 1989 Annual Supplement, December 1989.

9. U.S. Department of Commerce, "Health and Medical Services," in *U.S. Industrial Outlook 1993* (Washington, DC: U.S. Government Printing Office, 1991) 42-1–42-6.

10. Simon Francis, U.S. Department of Commerce, personal communication, March 29, 1993.

11. U.S. Congress, Congressional Budget Office, *Projections of National Health Expenditures*, (Washington, DC: U.S. Government Printing Office, October 1992); and CBO, unpublished data, February 1993.

12. Further information on the trend in Medicare spending for all of these services is provided in Chapter 3.

13. Board of Trustees, Federal Hospital Insurance Trust Fund, *1993 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund,* Washington, DC, 1993, 2-3.

14. Thomas W. Reilly, Steven B. Clauser, and David K. Baugh, "Trends in Medicaid Payments and Utilization, 1975-1989," *Health Care Financing Review*, 1990 Annual Supplement, December 1990.

15. The study discussed in this paragraph estimates Medicaid spending growth of 13 percent in 1989, 19 percent in 1990, and 26 percent in

1991, somewhat less than the rates presented in Figure 1-4. It is based on data available in early 1992 from sources different than those used by ProPAC. See Stephen Long, "The Causes of Soaring Medicaid Spending, 1988-1991," in *Medicaid Financing Crisis: Balancing Responsibilities, Priorities, and Dollars*, Background Papers (Baltimore, MD: Kaiser Commission on the Future of Medicaid, 1992). Models of Medicaid spending are consistent with these results, suggesting that about one-fifth of the 1988 to 1991 increase was due to post-1985 eligibility changes. See John Holahan and others, "Understanding the Recent Growth in Medicaid Spending," in *Medicaid Financing Crisis*.

16. Cynthia Sullivan and others, "Employer-Sponsored Health Insurance in 1991," *Health Affairs* 11(4)172-85, Winter 1992.

17. Employee Benefit Research Institute, *Sources of Health Insurance and Characteristics of the Uninsured—Analysis of the March 1992 Current Population Survey*, Issue Brief Number 123, January 1993.

18. Ibid.

19. Information taken from the Health Care Financing Administration, Office of the Actuary. Note that health-related taxes paid by households are excluded.

20. This analysis is based on the government fiscal year (October to September), because the AHA Annual Survey data most closely correspond to this period. Number of cases is measured using outpatient adjusted admissions. Input prices specific to hospitals are measured as the difference between CPI growth and the growth in a modified version of the HCFA hospital market basket. Patient complexity refers to real case-mix growth as determined by the Commission as part of its annual PPS update recommendation process. Intensity of services measures the intermediate outputs of the hospital (surgeries, X-rays, and so forth) per case-mix adjusted admission, and service-level productivity measures a composite of labor, supply and service, and capital inputs per service output unit. The latter two measures, along with employee skill mix, are discussed further in Chapter 2. A ProPAC technical report on this analysis is forthcoming later in 1993.

21. American Hospital Association, "Briefs," *AHA News*, March 4, 1991.

22. These recommendations are detailed in ProPAC's annual *Report and Recommendations to the Congress*.

23. HCFA's intensity factor also encompasses the non-measured residual category in ProPAC's model.

24. Data from the American Hospital Association National Hospital Panel Survey. See Chapter 2 for more detail.

25. Most of these gains are from private insurers, but payments from other government payers have contributed a small portion in some years.

26. These payment to cost ratios cover both inpatient and outpatient services. Data indicate that the ratio for Medicare inpatient services is slightly higher than 88 percent; the ratio for outpatient services is somewhat lower.

27. Payments for this payment to cost ratio are not calculated net of tax assessments to support the Medicaid programs. These tax payments are expenses allocated proportionately to all payers.

28. The amount and composition of cost shifting differ markedly by state. A discussion of state-level variation in payments by payer group is presented in Chapter 5.

29. MEDSTAT Systems, Inc., is in Ann Arbor, Michigan, and operates a reporting system for the health care provided to the employees and dependents of subscribing employers. The employers represented all had at least 2,000 employees, and several had more than 50,000. They were located throughout the country, although the Midwest is overrepresented. The database includes claims for 279,000 inpatient cases and 2,383,000 outpatient visits that were treated in 3,359 different hospitals. For purposes of reducing hospital charges to costs, ProPAC calculated a cost to charge ratio for

each of the hospitals based on Medicare Cost Report and AHA Annual Survey data.

30. Additional information on state rate setting is provided in Chapter 5.

31. The Health Insurance Association of America (HIAA) and Foster Higgins surveys showed similar results in 1991. The HIAA results for 1992 are not yet available.

32. Group Health Association *National Directory of HMOs* database. See Chapter 5 for complete state-by-state data.

33. The only discounts available in Maryland are for providing prompt payment and meeting certain underwriting standards, such as providing periods of open enrollment. HMOs and indemnity plans alike may qualify.

Chapter 2

Hospital Payments, Costs, and Financial Condition

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Hospital Payments, Costs, and Financial Condition

Medicare's prospective payment system (PPS) was intended to limit the growth of Medicare spending and, by providing incentives for improved hospital efficiency, reduce the rate of cost increase. Medicare inpatient spending has, indeed, risen more slowly since the implementation of PPS, but there has been no apparent effect on hospital costs. The ability to control hospital costs through a policy change like PPS depends on several factors: the direct effect on the level and distribution of Medicare payments, the importance of Medicare as a share of total hospital revenues, the policies of other payers for hospital services, and the general willingness and ability of hospitals to respond to payment incentives.

This chapter provides information on these issues by focusing on trends in Medicare operating payments and costs as well as total hospital revenues and expenses. First, the level and distribution of PPS operating payments are discussed, highlighting the effects of Medicare payment policy and other related changes. Trends in Medicare operating costs and payments and the resulting PPS operating margins are then described. In addition, an analysis of hospitals with improving or deteriorating PPS margins is presented.

The second section focuses on overall hospital financial status. It begins by discussing trends in hospital resources and productivity. Changes over time in total hospital expenses and revenues are then described, followed by an examination of total hospital margins. The third section addresses cost shifting by comparing gains and losses from different payers for different groups of hospitals. The chapter concludes by discussing what implications this information has for evaluating current policy and formulating plans for future analysis.

PAYMENTS AND COSTS UNDER PPS

Each year, changes in Medicare payment policy alter the amount and distribution of hospital payments. These changes affect the strength of the incentives provided by PPS and how different types of hospitals respond to them. Trends in Medicare operating costs are the result of hospitals' responses to policy changes, in the context of other factors that determine their willingness and ability to control their costs. As an index of PPS operating payments relative to Medicare operating costs, the PPS operating margin is therefore a measure of the cumulative effects of these policy changes and responses.

Distribution of PPS Operating Payments

Under PPS, each hospital receives a fixed payment rate per discharge for each type of case. Types of cases are defined by diagnosis-related groups (DRGs). A hospital's basic payment rate for each DRG is based on a national standardized payment amount, which differs according to the hospital's classification as large urban (in a metropolitan statistical area, or MSA, with a population of more than 1 million); other urban (in an MSA with a population of 1 million or fewer); or rural (outside of any MSA).

To account for differences across areas in hospital wage rates, the standardized amount is adjusted by a wage index for each MSA and all the rural areas in each state.[1] The wage index measures the relative level of wages for hospital workers in the labor market area compared with the national average. The adjusted standardized amount is then multiplied by the relative weight for each DRG to obtain the basic DRG payment rate for that type of case. The weight for each DRG indicates the national average costliness of treating cases in the DRG relative to the national average cost of care for all Medicare cases.

Basic DRG payments thus reflect the hospital's location, local wage rates, and mix of Medicare

cases. These factors partly explain why PPS payments are higher for hospitals in urban areas than for those in rural areas. The standardized payment amounts for urban hospitals are higher, based on historical and continuing differences in costs per discharge.[2] Moreover, urban hospitals not only tend to be located in labor market areas with higher wage rates but also treat a more complex and costly mix of Medicare patients.

In addition to the basic DRG rates, hospitals receive extra payments under PPS for cases with unusually long stays or extraordinarily high costs (outliers). Payments also are adjusted for hospitals that operate graduate medical education programs or serve a disproportionate share of low-income patients. These features further increase the amounts paid to urban hospitals compared with rural facilities. Hospitals in urban areas are much more likely to have outlier cases, and most teaching and disproportionate share hospitals are urban.

In fiscal year 1993, hospitals will receive an estimated $61.8 billion in PPS operating payments. Of this amount, $55.3 billion will be paid from the Medicare Hospital Insurance (Part A) Trust Fund. The remaining $6.5 billion will be paid by beneficiaries through Medicare cost sharing requirements (inpatient deductibles and coinsurance).[3]

The Prospective Payment Assessment Commission's (ProPAC) estimates for fiscal year 1993 show that PPS operating payments continue to vary substantially among hospital groups (see Table 2-1). For example, 53 percent of all PPS hospitals are in urban areas, and urban hospitals account for 78 percent of PPS discharges. However, these hospitals receive 86 percent of PPS operating payments. By contrast, 47 percent of all PPS hospitals are in rural areas and account for 22 percent of PPS discharges. Rural hospitals receive 14 percent of PPS payments.

As hospital size increases, the relative share of PPS operating payments tends to rise. For instance, 23 percent of all PPS hospitals are rural facilities with fewer than 50 beds, but they account for only 4 percent of PPS discharges and 2 percent of PPS payments. Urban hospitals with 500 or more beds represent only 4 percent of all PPS hospitals and 14 percent of PPS discharges, but they account for 19 percent of PPS payments.

Variations across hospital groups in their share of total PPS operating payments reflect a combination of differences in Medicare discharge volume and other factors that affect each hospital's average payment per discharge. As noted earlier, these include hospital and area characteristics, such as local wage rates and the mix of cases treated, which affect the basic DRG payment rate. Other factors triggering additional payments under PPS, such as the occurrence of outlier cases, the operation of a graduate medical education program, or the treatment of a disproportionate share of low-income patients, also influence the distribution of PPS payments. Congress included all these factors in the payment system to ensure that PPS payments would compensate hospitals fairly for appropriate differences in the cost of treating Medicare patients, as well as to accomplish broader policy objectives.

Outlier Payments—Outlier payments are intended to protect hospitals from the risk of financial losses associated with cases with unusually long stays or exceptionally high costs. They are also designed to mitigate the incentive to avoid or inappropriately treat patients who are likely to become costly. In fiscal year 1993, outlier payments are expected to account for 4.3 percent of total PPS operating payments, or about $2.7 billion (see Table 2-2).

Outlier payments are funded by a 5.5 percent reduction in the standardized payment amounts for urban hospitals and a 2.2 percent reduction for rural hospitals. These reductions represent the Health Care Financing Administration's (HCFA) projections of the approximate shares of total DRG payments attributable to outlier payments in urban and rural hospitals, respectively, in fiscal year 1993. Outlier payments are made, however, according to the actual incidence of outlier cases, regardless of where they occur. The outlier policy's net effect on a given hospital's PPS revenues depends on whether its proportion of outlier payments is more or less than the reduction in its standardized payment amount.[4]

Outlier payments are not evenly distributed across hospitals, because some hospitals are likelier to treat cases with exceptionally long or costly stays. For example, urban hospitals receive 93 percent of all outlier payments and rural hospitals only

Table 2-1. Distribution of PPS Hospitals and Discharges and Estimated Fiscal Year 1993 PPS Operating Payments, by Hospital Group

Hospital Group	Number of Hospitals	PPS Hospitals	PPS Discharges	PPS Operating Payments			
				Total	Outlier	IME	DSH
All hospitals	5,329	100%	100%	100%	100%	100%	100%
Urban	2,845	53	78	86	93	98	95
Rural	2,484	47	22	14	7	2	5
Large urban	1,447	27	41	48	54	69	58
Other urban	1,398	26	38	37	40	30	37
Rural referral	236	4	6	5	3	1	2
Sole community	583	11	4	2	1	*	1
Other rural	1,665	31	12	7	3	*	2
Major teaching	225	4	10	16	20	62	34
Other teaching	805	15	31	34	38	38	33
Non-teaching	4,299	81	59	49	42	0	33
Disproportionate share:							
Large urban	606	11	17	24	27	46	58
Other urban	592	11	18	19	19	20	37
Rural	438	8	5	3	2	1	5
Non-disproportionate share	3,693	69	60	54	52	33	0
Payment adjustments:							
IME and DSH	563	11	21	29	33	67	67
IME only	467	9	20	22	24	33	0
DSH only	1,073	20	19	17	14	0	33
No IME or DSH	3,226	61	40	32	28	0	0
Urban <100 beds	663	12	4	3	2	*	*
Urban 100-199 beds	857	16	15	14	12	4	17
Urban 200-299 beds	605	11	20	20	20	12	18
Urban 300-399 beds	343	6	15	17	18	16	20
Urban 400-499 beds	184	3	10	12	15	19	14
Urban 500+ beds	193	4	14	19	25	47	27
Rural <50 beds	1,230	23	4	2	*	*	*
Rural 50-99 beds	760	14	7	4	1	*	1
Rural 100-149 beds	258	5	4	3	1	*	1
Rural 150-199 beds	121	2	3	2	1	*	1
Rural 200+ beds	115	2	4	3	3	1	2
New England	228	4	6	6	7	11	3
Middle Atlantic	547	10	17	20	29	32	23
South Atlantic	761	14	17	16	17	11	19
East North Central	820	15	18	17	12	21	12
East South Central	466	9	8	7	7	3	8
West North Central	747	14	8	7	5	7	3
West South Central	753	14	11	9	9	5	12
Mountain	350	7	4	4	4	2	2
Pacific	657	12	11	13	11	9	18
Voluntary	3,036	57	74	75	77	79	65
Proprietary	773	15	12	11	12	2	10
Urban government	403	8	8	9	10	18	22
Rural government	1,087	20	7	4	1	*	2

Note: PPS payments estimated using PPS rules in effect as of January 1, 1993. Excludes hospitals in Maryland. Columns may not add to 100 due to rounding. IME = indirect medical education payments. DSH = disproportionate share payments.

* Less than 0.5 percent.

SOURCE: ProPAC estimates based on ProPAC PPS payment model and fiscal year 1991 MedPAR file data from the Health Care Financing Administration.

Table 2-2. Distribution of Estimated Fiscal Year 1993 PPS Operating Payments, by Hospital Group and Payment Type (In Percent)

Hospital Group	PPS Operating Payments			
	Basic DRG	Outlier	IME	DSH
All hospitals	85.9%	4.3%	5.6%	4.1%
Urban	84.2	4.7	6.5	4.6
Rural	95.9	2.0	0.6	1.5
Large urban	82.1	4.8	8.1	5.0
Other urban	86.9	4.6	4.4	4.1
Rural referral	94.2	2.6	1.4	1.7
Sole community	97.6	1.2	*	1.2
Other rural	96.6	1.8	0.2	1.4
Major teaching	64.8	5.2	21.4	8.6
Other teaching	85.1	4.8	6.2	3.9
Non-teaching	93.5	3.7	0.0	2.8
Disproportionate share:				
Large urban	73.9	4.9	11.1	10.1
Other urban	81.6	4.3	6.0	8.1
Rural	89.8	2.3	1.5	6.4
Non-disproportionate share	92.4	4.2	3.4	0.0
Payment adjustments:				
IME and DSH	72.4	4.9	13.1	9.5
IME only	86.7	4.8	8.5	0.0
DSH only	88.1	3.7	0.0	8.2
No IME or DSH	96.3	3.7	0.0	0.0
Urban <100 beds	96.0	3.0	0.6	0.3
Urban 100-199 beds	89.7	3.7	1.6	4.9
Urban 200-299 beds	88.5	4.4	3.4	3.7
Urban 300-399 beds	85.1	4.7	5.3	4.9
Urban 400-499 beds	80.8	5.4	9.1	4.7
Urban 500+ beds	75.0	5.5	13.7	5.7
Rural <50 beds	98.9	0.5	*	0.6
Rural 50-99 beds	98.1	1.2	*	0.7
Rural 100-149 beds	95.8	2.1	0.2	1.9
Rural 150-199 beds	95.8	2.6	0.3	1.3
Rural 200+ beds	91.7	3.4	2.3	2.6
New England	83.7	4.7	9.6	2.0
Middle Atlantic	79.6	6.3	9.2	4.9
South Atlantic	86.6	4.6	3.8	5.0
East North Central	87.3	3.1	6.8	2.8
East South Central	88.1	4.2	2.7	5.0
West North Central	90.1	2.9	5.3	1.7
West South Central	87.9	4.1	2.9	5.1
Mountain	91.2	3.8	3.3	1.8
Pacific	87.0	3.5	3.7	5.8
Voluntary	86.1	4.4	6.0	3.6
Proprietary	90.4	4.8	1.1	3.7
Urban government	74.9	4.4	10.8	9.9
Rural government	95.9	1.5	0.4	2.3

Note: PPS payments estimated using PPS rules in effect as of January 1, 1993. Excludes hospitals in Maryland. Columns may not add to 100 due to rounding. DRG = diagnosis-related group. IME = indirect medical education payments. DSH = disproportionate share payments.

* Less than 0.5 percent.

SOURCE: ProPAC estimates based on ProPAC PPS payment model and fiscal year 1991 MedPAR file data from the Health Care Financing Administration.

7 percent. Similarly, while teaching hospitals account for 41 percent of PPS discharges, they receive 58 percent of outlier payments. Hospitals in the Middle Atlantic region, which have 17 percent of all PPS discharges, receive 29 percent of all outlier payments.[5]

As with other elements of PPS payment, the uneven distribution of outlier payments does not necessarily indicate that the outlier policy is inequitable. Certain hospitals treat a more diverse mix of patients and thus face a greater risk that some will require an extraordinary amount of resources. So it is appropriate that some hospital groups receive a greater share of outlier payments than others; in fact, hospitals with a high proportion of outlier payments in any particular year are more likely than other hospitals to incur PPS losses.

Indirect Medical Education and Disproportionate Share Payments—In fiscal year 1993, indirect medical education (IME) and disproportionate share (DSH) payments are expected to account for 9.7 percent of all PPS operating payments, or about $6.4 billion.

The IME adjustment is intended to recognize hospitals' indirect costs of operating approved graduate medical education programs. Teaching hospitals are thought to offer a wider range of services and technologies, treat patients who are more severely ill, and provide more diagnostic and therapeutic services to certain types of patients than other hospitals. They tend to use a greater number and a more expensive mix of services per case.

PPS accounts for the indirect costs of teaching by applying a hospital-specific percentage adjustment to each teaching hospital's total DRG payments (basic DRG payments plus outlier payments). The size of a hospital's IME adjustment varies according to the intensity of its graduate medical education activities (as measured by the ratio of residents per bed). In fiscal year 1993, IME payments are expected to account for 5.6 percent of total PPS operating payments, or about $3.7 billion.

The DSH adjustment is intended to compensate hospitals that treat large proportions of low-income patients. Such hospitals are thought to have higher costs than otherwise similar hospitals for a variety of reasons, including their location and the characteristics of the patients they treat. DSH payments are expected to account for 4.1 percent of total PPS operating payments, or about $2.7 billion in fiscal year 1993.

Almost all IME and DSH payments (98 percent and 95 percent, respectively) go to hospitals located in urban areas. These payments also account for a larger share of total PPS revenues in urban hospitals than in rural facilities. In general, larger hospitals also receive more of their PPS revenues from IME and DSH payments than smaller facilities. For example, these adjustments account for 19.4 percent of total PPS operating payments for urban hospitals with 500 or more beds, but only 0.9 percent for urban facilities with fewer than 100 beds.

There is also substantial overlap between the hospitals receiving IME and DSH payments. Teaching hospitals account for 67 percent of all DSH payments, and disproportionate share hospitals account for 67 percent of all IME payments (see Table 2-1). As a result, IME and DSH payments are a major source of revenue for some hospitals, but are much less important for others. For example, major teaching hospitals (those with a ratio of residents to beds greater than 0.25) receive 21.4 percent of their PPS operating payments from the IME adjustment and 8.6 percent from the DSH adjustment (see Table 2-2). Basic DRG payments account for only 64.8 percent of total PPS revenues for these hospitals. By contrast, non-teaching hospitals depend on basic DRG payments for 93.5 percent of their total PPS revenues.

DSH and IME payments are also distributed unevenly across geographic areas. Hospitals in the Middle Atlantic and East North Central regions combined receive more than half of all IME payments. DSH payments go predominantly to hospitals in the Middle Atlantic, South Atlantic, and Pacific regions (23 percent, 19 percent, and 18 percent, respectively).

Effects of Payment Policy and Other Changes

Before the implementation of prospective payment in fiscal year 1984, hospitals were paid on the basis of the allowable costs they actually incurred in providing services to Medicare beneficiaries.

Under this method, payments were unevenly distributed because of differences in hospital volume and costliness. Teaching hospitals, for instance, historically have received a greater than proportionate share of payments because they generally are large facilities with many Medicare discharges and high costs per case.

By paying hospitals a fixed rate for each DRG, PPS has removed the link between the costs incurred by an individual hospital and the Medicare payments it receives. This connection has been replaced with adjustments designed to recognize the impact of certain factors that affect hospital costs, such as local market conditions and case mix.

As noted later in this chapter, the distribution of Medicare payments among hospitals was substantially altered in the first year of PPS. In addition, hospital responses and other factors resulted in marked changes in the level and distribution of Medicare operating costs per case. The immediate result was large disparities in financial performance among hospitals under PPS.

Congress responded by enacting a series of policy changes that were intended to mitigate perceived inequities in payments under the initial design of PPS and to accomplish certain other objectives. For example, the IME adjustment was reduced and the DSH adjustment added beginning in fiscal year 1986. Similarly, Congress has mandated separate updates to the rural and urban standardized payment amounts each year beginning in fiscal year 1988. These policies have affected the level and distribution of PPS payments among hospitals, generally as Congress intended.

Other changes in the distribution of payments have occurred when specific elements of the payment system have been updated to reflect new data. The area wage index, the DRG classification system and weights, and the outlier thresholds all are subject to periodic updating.

With Medicare payments no longer tied to each hospital's actual costs, hospitals are more vulnerable to the effects of payment policy decisions. The following discussion focuses on how policy changes adopted since PPS began have affected PPS operating payments per case. This impact is measured relative to the policy in effect during the first PPS year.[6]

Changes in payments per case are determined both by policy decisions and by other factors that are not directly related to these decisions, the most significant being the complexity and costliness of Medicare cases (as measured by the Medicare case-mix index, or CMI). Changes in the CMI directly affect PPS payments to hospitals. The impact of the CMI is isolated from payment policy effects in this analysis and discussed separately below.

Policy Changes in Recent Years—Policy changes made in fiscal years 1990 and 1991 had a greater effect on per-case payments than changes implemented earlier (see Table 2-3). While policy changes raised payment rates about 10 percent over the entire five-year period from 1984 to 1989, the increase was about 5 percent per year in 1990 and 1991. Most of this effect stemmed from provisions in the Omnibus Budget Reconciliation Acts (OBRA) of 1989 and 1990. Among the most important of these was the elimination of the difference in the standardized amounts for rural and other urban hospitals. In addition, the number of rural hospitals receiving the DSH adjustment was expanded and the size of the adjustment was increased for many urban hospitals. Another major change involved the basis of payment for sole community hospitals (geographically isolated facilities that are considered the only available source of inpatient care for the community). These hospitals now receive payments based on their 1982 or 1987 base-year costs or the PPS rate, whichever is greatest. Small rural Medicare-dependent hospitals (those with a large share of Medicare patients) were given the same special treatment as sole community hospitals under a provision that expired during fiscal year 1993.

The update of the hospital wage index for fiscal year 1991 also had a substantial effect on per-case payments for some hospitals. In addition, in fiscal year 1992 more than 900 hospitals were reclassified for payment purposes by the Medicare Geographic Classification Review Board (MGCRB); in fiscal year 1993, the number of reclassified hospitals was nearly 1,200. Most of these hospitals were reclassified from rural to adjacent urban labor market areas.

Table 2-3. Effects of PPS Update Factors and Other Payment Policy Changes on Per-Case PPS Payments, by Hospital Group (In Percent)

Hospital Group	Fiscal Year 1984-1989	Fiscal Year 1990	Fiscal Year 1991	Fiscal Year 1992	Fiscal Year 1993	Fiscal Years 1984-1993 Total PPS Policy Effect	Fiscal Years 1984-1993 Cumulative Increase in Case-Mix Index*	Fiscal Years 1984-1993 Total Case Mix and Policy Effect
All hospitals	10.3%	5.2%	4.5%	2.3%	3.6%	28.4%	28.0%	64.4%
Urban	7.8	4.4	4.2	1.2	4.0	23.4	30.2	60.7
Rural	16.7	9.2	5.1	7.7	2.1	47.2	17.9	73.6
Large urban	8.0	4.4	4.4	0.7	3.9	23.2	29.9	60.1
Other urban	7.9	4.5	4.0	1.8	4.0	24.2	30.4	62.0
Rural referral	7.2	7.3	3.1	8.4	2.8	32.0	23.9	63.6
Sole community	18.6	15.1	8.7	5.2	2.7	60.3	14.1	82.8
Other rural	20.3	8.5	5.1	8.0	1.5	50.3	14.7	72.4
Major teaching	-0.8	4.8	6.6	0.6	4.3	16.3	36.9	59.1
Other teaching	7.4	4.5	3.8	1.6	3.9	22.8	31.6	61.6
Non-teaching	13.4	5.5	4.3	3.1	3.3	33.0	24.0	64.9
Disproportionate share:								
Large urban	8.6	5.5	5.7	0.9	4.0	27.2	31.1	66.7
Other urban	8.8	5.1	4.5	2.7	3.8	27.3	30.6	66.3
Rural	14.5	9.9	5.8	10.4	2.7	51.0	19.1	79.8
Non-disproportionate share	10.9	4.9	3.9	2.1	3.5	27.7	26.9	62.1
Payment adjustments:								
IME and DSH	5.6	5.2	5.3	1.3	4.1	23.3	33.6	64.7
IME only	5.4	4.1	3.8	1.2	3.9	19.6	32.1	58.1
DSH only	13.8	5.9	5.1	4.1	3.5	36.3	24.8	70.0
No IME or DSH	13.1	5.3	3.9	2.7	3.2	31.2	23.7	62.3
Urban <100 beds	8.6	3.0	3.2	0.5	3.2	19.8	18.2	41.6
Urban 100-199 beds	10.3	4.1	4.2	1.6	3.8	26.1	23.5	55.8
Urban 200-299 beds	9.0	3.8	4.3	1.1	3.9	24.0	27.7	58.4
Urban 300-399 beds	8.3	4.9	3.9	1.3	4.0	24.4	31.4	63.4
Urban 400-499 beds	6.1	5.2	4.0	1.0	3.9	21.7	33.6	62.7
Urban 500+ beds	2.9	4.3	4.4	1.2	4.4	18.3	37.3	62.4
Rural <50 beds	20.9	12.4	5.8	5.1	0.8	52.1	7.4	63.3
Rural 50-99 beds	19.3	10.2	6.0	7.0	1.8	51.8	14.2	73.3
Rural 100-149 beds	15.8	8.5	5.0	8.6	2.4	46.7	19.9	76.0
Rural 150-199 beds	12.4	7.8	3.7	8.6	2.8	40.3	19.5	67.7
Rural 200+ beds	7.9	6.6	4.7	9.1	2.9	35.2	25.6	69.7
New England	13.0	4.5	8.0	1.8	4.0	34.9	21.1	63.4
Middle Atlantic	3.2	5.4	4.0	0.5	3.6	17.9	27.2	50.0
South Atlantic	8.8	5.3	7.0	3.2	4.0	31.6	30.5	71.8
East North Central	8.4	4.2	3.0	2.8	3.2	23.4	27.1	56.8
East South Central	9.2	6.5	4.5	3.5	3.9	30.7	27.8	67.0
West North Central	16.0	6.0	2.1	3.1	2.8	33.0	28.4	70.8
West South Central	10.6	6.8	3.5	2.9	4.0	30.8	31.1	71.4
Mountain	8.8	5.3	4.8	2.4	3.5	27.2	26.6	61.0
Pacific	14.6	4.0	4.5	1.6	3.6	31.1	26.9	66.4
Voluntary	9.6	4.9	4.2	2.1	3.6	26.7	27.8	61.9
Proprietary	9.0	5.0	5.1	2.4	4.3	28.4	33.9	71.9
Urban government	8.2	5.5	5.2	0.6	4.0	25.5	29.5	62.5
Rural government	17.8	10.1	5.5	7.3	1.9	49.6	14.4	71.2

Note: Figures are not estimates of actual changes in fiscal year PPS hospital payments. They are meant to isolate the effects of changes in PPS rules on PPS payment rates, holding all other factors constant. Payments for each year are estimated based on the PPS rules in effect on the last day of the fiscal year. The effect of change in case mix is reflected only in the last two columns. Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with fiscal year 1987 and New Jersey beginning with fiscal year 1989. IME = indirect medical education payments. DSH = disproportionate share payments.

* The estimated effect of the change in case mix for fiscal years 1992 and 1993 by group is based on the actual annual rate of change by group for fiscal years 1985 through 1991.

SOURCE: ProPAC estimates based on ProPAC PPS payment model and fiscal year 1991 MedPAR file data from the Health Care Financing Administration.

The pattern of increases in per-case payments has been strongly influenced by the larger annual updates to the rural than the urban standardized payment amounts since fiscal year 1988. This trend continued in fiscal year 1993, with a rural update of 3.55 percent, while the large urban and other urban standardized amounts each was increased by 2.55 percent. Differential updates in the standardized payment amounts are scheduled to continue through fiscal year 1995, when the rural and other urban amounts will be set equal.

Finally, the outlier payment policy was changed for fiscal year 1993, reducing payments for extremely long hospital stays. These changes continue a trend toward emphasizing cost rather than length of stay as the criterion for identifying unusually resource-intensive cases for additional payment.

Cumulative Effects of Payment Policy Changes—Payment policy decisions since the first year of PPS have increased per-case payments by 28.4 percent. Rural hospitals in particular have benefited from these decisions. The cumulative effect of policy changes since the first year of PPS is more than twice as large for rural as for urban hospitals (47.2 percent compared with 23.4 percent).[7] In fiscal year 1993, however, these changes had a smaller net effect on rural hospitals' per-case payments, mostly because special treatment for small rural Medicare-dependent facilities was phased out.

Small rural facilities—many of which are sole community hospitals—have been especially helped by PPS policy changes. The cumulative effect of policy changes on per-case payments for rural hospitals with fewer than 100 beds has exceeded 50 percent since the first year of PPS, with much of this increase due to geographic reclassification. (The cumulative effect for sole community hospitals alone was 60.3 percent.) Rural hospitals with fewer than 50 beds also gained from the special provision for small rural Medicare-dependent hospitals, although the phasing out of that provision lowered their fiscal year 1993 per-case payments.

The IME adjustment was reduced in fiscal year 1986, largely in reaction to the very high payments teaching hospitals received in the first year of PPS. This led to a policy-related decrease in per-case payments for major teaching hospitals in that year. The cumulative policy-related increase since the first year of PPS for these hospitals has been less than half that for non-teaching facilities. This occurred even though teaching hospitals receive the vast majority of DSH payments, which have increased considerably in recent years.

Historically, much of the policy debate each year focuses on the size of the PPS update factor, although other payment policy decisions attract attention as well. However, CMI change is about as important as the update in determining the overall increase in per-case PPS payments. Moreover, the distribution of CMI change is often quite different from the pattern of payment policy effects. For example, policy changes increased per-case payments for rural hospitals substantially, but the change in their CMI was well below average. Consequently, the net effect of policy changes on rural hospital payments has been moderated by CMI change.

Case-Mix Index Change—The CMI is the average DRG weight for all cases paid under PPS. It is a measure of the relative costliness of the patients treated in each hospital or group of hospitals. However, an increase in the CMI may result from both changes in the types of patients treated and refinement of medical record documentation and coding practices. Real changes in costliness may be due to treating patients who are more severely ill or who use more complex services. Refinement of medical record documentation and coding practices, on the other hand, may result in higher payment but does not reflect changes in treatment costs.

The CMI has increased each year since the implementation of PPS (see Table 2-4). The CMI for all hospitals was 1.053 in 1981 (pre-PPS) and had increased to 1.366 by fiscal year 1991. Between fiscal years 1984 and 1990, the CMI increased at an annual rate of 3.0 percent. From 1990 to 1991, the increase was 2.7 percent.[8]

The largest single-year increase in the CMI occurred in the first year of PPS. This coincided with the introduction of financial incentives to improve coding completeness and accuracy, and with significant shifts of services from inpatient to outpatient settings. Another acceleration occurred in fiscal year 1988, when changes in the structure

Table 2-4. Changes in the Medicare Case-Mix Index Under PPS, by Hospital Group, 1981-1991

Hospital Group	Case-Mix Index				Annual Rate of Change		
	1981*	1984	1990	1991	1981*-1984	1984-1990	1990-1991
All hospitals	1.053	1.129	1.330	1.366	2.6%	3.0%	2.7%
Urban	1.077	1.164	1.378	1.419	2.9	3.1	3.0
Rural	0.981	1.033	1.159	1.173	1.9	2.1	1.2
Large urban	1.085	1.171	1.382	1.424	2.8	3.0	3.1
Other urban	1.069	1.157	1.374	1.413	2.9	3.1	2.9
Rural referral	1.037	1.095	1.275	1.294	2.0	2.8	1.5
Sole community	0.969	1.020	1.116	1.125	1.9	1.7	0.8
Other rural	0.961	1.011	1.110	1.121	1.9	1.8	0.9
Major teaching	1.158	1.278	1.531	1.603	3.7	3.3	4.7
Other teaching	1.093	1.194	1.416	1.462	3.3	3.1	3.3
Non-teaching	1.018	1.083	1.253	1.278	2.3	2.7	2.0
Disproportionate share:							
Large urban	1.097	1.188	1.408	1.458	2.9	3.1	3.5
Other urban	1.069	1.164	1.385	1.429	3.2	3.1	3.1
Rural	0.970	1.026	1.162	1.173	2.1	2.3	1.0
Non-disproportionate share	1.043	1.113	1.305	1.337	2.4	2.9	2.5
Payment adjustments:							
IME and DSH	1.112	1.216	1.456	1.511	3.3	3.3	3.8
IME only	1.103	1.204	1.429	1.478	3.2	3.1	3.4
DSH only	1.021	1.095	1.269	1.297	2.6	2.7	2.2
No IME or DSH	1.016	1.078	1.245	1.269	2.2	2.6	1.9
Urban <100 beds	0.980	1.030	1.161	1.164	1.8	2.2	0.2
Urban 100-199 beds	1.032	1.104	1.270	1.291	2.5	2.6	1.6
Urban 200-299 beds	1.070	1.145	1.342	1.374	2.5	2.9	2.4
Urban 300-399 beds	1.095	1.192	1.414	1.461	3.1	3.1	3.3
Urban 400-499 beds	1.107	1.210	1.443	1.496	3.3	3.2	3.7
Urban 500+ beds	1.141	1.272	1.533	1.604	4.0	3.4	4.7
Rural <50 beds	0.940	0.982	1.029	1.031	1.6	1.0	0.2
Rural 50-99 beds	0.965	1.018	1.116	1.123	2.0	1.7	0.7
Rural 100-149 beds	0.993	1.048	1.195	1.206	2.0	2.4	0.9
Rural 150-199 beds	1.013	1.060	1.206	1.215	1.7	2.4	0.8
Rural 200+ beds	1.041	1.106	1.289	1.320	2.2	2.8	2.4
New England	1.089	1.167	1.319	1.344	2.5	2.3	1.9
Middle Atlantic	1.089	1.133	1.316	1.349	1.5	2.7	2.5
South Atlantic	1.045	1.128	1.347	1.391	2.8	3.2	3.3
East North Central	1.062	1.126	1.320	1.359	2.1	2.9	3.0
East South Central	1.014	1.074	1.271	1.303	2.1	3.1	2.5
West North Central	1.020	1.129	1.339	1.374	3.8	3.1	2.6
West South Central	0.988	1.102	1.324	1.364	4.1	3.3	3.1
Mountain	1.060	1.154	1.354	1.389	3.1	2.9	2.6
Pacific	1.098	1.181	1.394	1.425	2.7	3.0	2.2
Voluntary	1.068	1.150	1.348	1.385	2.7	2.9	2.8
Proprietary	1.015	1.084	1.326	1.360	2.4	3.6	2.5
Urban government	1.072	1.157	1.362	1.410	2.8	3.0	3.5
Rural government	0.960	1.015	1.115	1.123	2.0	1.8	0.7

Note: Case-mix indexes presented in this table are case-weighted averages for each hospital group. They are based on DRG assignments made by the GROUPER software in use at the time of discharge for each Medicare case. Excludes hospitals in Maryland; includes hospitals in Massachusetts, New York, and New Jersey beginning with fiscal year 1989. IME = indirect medical education payments. DSH = disproportionate share payments.

* Data for 1981 correspond to calendar year. All other years shown are Federal fiscal years.

SOURCE: ProPAC analysis of MedPAR file data from the Health Care Financing Administration.

of several DRGs provided hospitals with new incentives for more complete coding. Further changes in fiscal year 1991 caused yet another jump in the CMI.

Historically, the CMI for urban hospitals has been higher than that for rural hospitals. Moreover, the CMI for urban hospitals has been increasing more rapidly. As a result, the difference between the CMIs for urban and rural hospitals has been widening over time. In fiscal year 1991, this difference was 21.0 percent, compared to 12.7 percent in fiscal year 1984.

Within the urban and rural groups, both the CMI and the rate of CMI growth increase with hospital size. Similarly, major teaching hospitals have had both higher and slightly more rapidly rising CMIs than other teaching hospitals, and all teaching hospitals as a group have higher and faster-growing CMIs than do non-teaching hospitals. This pattern was even more pronounced in fiscal year 1991 than in previous years.

These differences in the rate of CMI change raise an important issue related to PPS payment policy. As discussed earlier, the distribution of payments is substantially affected by the pattern of CMI change. However, a significant portion of CMI change may be due to refinements in coding practices, rather than to real increases in patient costliness. To the extent that different hospitals exhibit different coding behavior, the distribution of PPS payments thus may be significantly affected by factors unrelated to patient resource requirements.

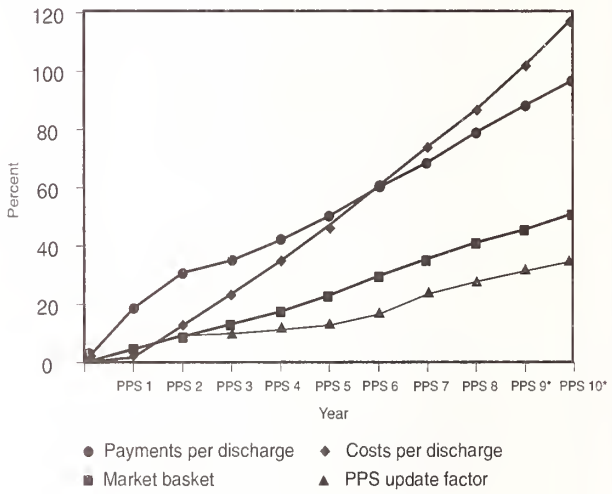
Trends in PPS Operating Costs and Payments

One of the major objectives of PPS is to encourage hospitals to contain the cost of providing care to Medicare patients. The pattern of growth in operating costs and payments over the first eight years of PPS provides some indication of how effectively this objective has been met.

Medicare Operating Costs—After rising by 1.9 percent in the first year of PPS and 10.6 percent in the second, operating costs per case grew at a steady rate of between 9.0 percent and 9.7 percent in the third through sixth years (see Table 2-5).[9] In the seventh and eighth years, however, the rate of increase in costs per case decreased to 8.3 percent and 7.3 percent, respectively.

The cumulative growth in operating costs per case is projected to reach 119 percent by the tenth year of PPS (see Figure 2-1). This is more than twice the increase in the PPS market basket index (which measures the prices of inputs that hospitals use to provide care for Medicare patients).

Figure 2-1. Cumulative Increases in PPS Costs and Payments Per Discharge, First 10 Years of PPS (In Percent)



* Costs and payments are estimated for PPS 9 and PPS 10.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

The pattern of change in operating costs per case varies across hospital groups, and seems to be different particularly in the seventh and eighth years of PPS compared with the first six years (see Table 2-6). Rural hospitals had smaller than average cost per case increases over the first six years, but greater than average increases in the seventh and eighth years. Sole community hospitals consistently have had less cost growth than other rural hospitals. Major teaching hospitals had about average increases in costs per case over the first six years, but smaller than average increases in the seventh and eighth years. Small urban hospitals also had substantially smaller than average growth in costs per case in the seventh and eighth years.

Table 2-5. Changes in PPS Operating Costs and Payments, First Eight Years of PPS (In Percent)

Year	PPS					
	Operating Costs	Payments	Operating Costs Per Case	Payments Per Case	Market Basket Index	Update Factor
TEFRA to PPS 1	-4.6%	11.0%	1.9%	18.5%	4.9%	4.7%
PPS 1 to PPS 2	4.3	4.2	10.6	10.5	3.9	4.5
PPS 2 to PPS 3	5.7	-0.6	9.7	3.1	3.9	0.5
PPS 3 to PPS 4	7.5	3.8	9.0	5.3	3.7	1.2
PPS 4 to PPS 5	10.0	6.6	9.2	5.8	4.7	1.5
PPS 5 to PPS 6	10.5	7.7	9.3	6.5	5.4	3.3
PPS 6 to PPS 7	10.7	7.6	8.3	5.3	4.5	4.7*
PPS 7 to PPS 8	9.7	7.8	7.3	5.5	4.3	3.4

Note: Data on costs, payments, and discharges for each PPS year (TEFRA, PPS 1, etc.) correspond to each hospital's cost reporting period beginning in that year. For instance, the TEFRA year includes data from each hospital's cost reporting period beginning during the year in which TEFRA was in effect (Federal fiscal year 1983). Data on the market basket index and the update factor are from the corresponding Federal fiscal year (1984 for PPS 1, etc.). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6. Data are based on cohorts of hospitals with cost reports available in each of two successive years. TEFRA = Tax Equity and Fiscal Responsibility Act of 1982.

* Adjusted for 1.22 percent across-the-board reduction in DRG weights.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

Of particular note are the large increases in operating costs per case for rural disproportionate share hospitals in the seventh and eighth years of PPS. As discussed earlier, OBRA 1989 substantially expanded the number of rural hospitals that qualified for DSH payments. This provision took effect during the seventh year, which coincides with the acceleration in costs per case for these hospitals.[10]

Other hospital groups with larger than average increases in operating costs per case in the seventh and eight years of PPS were rural referral centers, large rural hospitals, and rural government hospitals. There is considerable overlap among these groups and rural disproportionate share hospitals.

PPS Operating Payments—Operating payments per case followed a different trend and varied considerably more across hospital groups than the trend in costs (see Table 2-7). After rising 18.5 percent in the first year of PPS and 10.3 percent in the second year, payments per case grew by only 3.2 percent in the third year. Since then, increases have been relatively steady, ranging from 5.3 percent to 6.5 percent in each year. Payments per case have grown much more rapidly than the update factor. This is primarily because of CMI increases, as discussed earlier. In the first 10 years of PPS, the update factor has boosted payment rates by a cumulative 35 percent. Total PPS payments per case, however, have risen by an estimated 97 percent over the same period.

During the first year of PPS, per-case payment growth was substantially higher for urban than for rural hospitals—19.8 percent compared with 11.6 percent. More recently, however, rural hospitals have had larger increases than urban hospitals in payments per case. This reflects the payment policy changes discussed earlier.

In the eighth year of PPS, sole community hospitals and rural disproportionate share hospitals—two of the groups benefiting most from the payment changes in OBRA 1989—experienced substantially larger than average increases in payments per discharge.

PPS Operating Margins

The PPS operating margin compares PPS operating payments with Medicare operating costs. It provides a measure of the relationship between the costs of Medicare-covered services and how much is paid for them under prospective payment. Similar data on total hospital margins, as well as a discussion of the relationships between payments and costs for other payers, are presented later in this chapter.

Table 2-6. Changes in PPS Operating Costs Per Case, by Hospital Group, First Eight Years of PPS (In Percent)

Hospital Group	Annual Rate of Change			
	TEFRA to PPS 1	PPS 1 to PPS 6	PPS 6 to PPS 7	PPS 7 to PPS 8
All hospitals	1.9%	9.5%	8.3%	7.3%
Urban	1.7	9.5	7.9	7.0
Rural	1.7	9.0	9.4	8.5
Large urban	0.6	9.2	6.9	6.2
Other urban	3.1	10.0	9.2	8.0
Rural referral	1.4	9.7	9.7	8.4
Sole community	1.6	8.5	8.4	8.0
Other rural	1.6	8.6	9.3	8.5
Major teaching	1.6	9.2	7.2	5.8
Other teaching	1.3	9.3	8.7	7.2
Non-teaching	2.0	7.7	8.2	7.5
Disproportionate share:				
Large urban	-0.8	9.0	7.3	6.3
Other urban	3.7	10.0	9.2	7.6
Rural	0.4	9.4	9.8	8.7
Non-disproportionate share	2.3	9.6	8.3	7.5
Payment adjustments:				
IME and DSH	0.5	9.2	8.4	7.1
IME only	2.5	9.4	8.4	6.8
DSH only	1.8	9.6	8.5	7.1
No IME or DSH	2.1	9.6	8.1	7.7
Urban <100 beds	0.5	9.6	4.5	5.7
Urban 100-199 beds	0.3	9.2	7.6	6.3
Urban 200-299 beds	1.5	9.1	7.4	6.5
Urban 300-399 beds	1.6	9.4	8.8	7.5
Urban 400-499 beds	4.0	9.2	8.1	8.3
Urban 500+ beds	2.0	10.2	8.5	6.9
Rural <50 beds	2.6	8.1	8.2	8.7
Rural 50-99 beds	0.9	8.0	9.1	8.0
Rural 100-149 beds	1.0	8.9	9.6	7.9
Rural 150-199 beds	1.9	9.4	9.1	8.2
Rural 200+ beds	1.3	10.1	10.0	9.1
Voluntary	1.9	9.3	8.1	7.3
Proprietary	0.5	10.4	9.2	5.8
Urban government	1.9	9.9	7.5	7.7
Rural government	2.0	9.1	9.3	8.3

Note: Data for each PPS year (TEFRA, PPS 1, etc.) correspond to each hospital's cost reporting period beginning in that year. For instance, the TEFRA year includes data from each hospital's cost report beginning during the year in which TEFRA was in effect (Federal fiscal year 1983). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6. Data are based on cohorts of hospitals with cost reports available in each of two successive years. TEFRA = Tax Equity and Fiscal Responsibility Act of 1982. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

Trends in PPS Margins—The aggregate PPS margin has fallen sharply, after exceeding 14 percent in the first two years of PPS (see Table 2-8). The high early PPS margins reflected the

Table 2-7. Changes in PPS Operating Payments Per Case, by Hospital Group, First Eight Years of PPS (In Percent)

Hospital Group	Annual Rate of Change			
	TEFRA to PPS 1	PPS 1 to PPS 6	PPS 6 to PPS 7	PPS 7 to PPS 8
All hospitals	18.5%	6.2%	5.3%	5.5%
Urban	19.8	6.0	4.7	5.1
Rural	11.6	6.5	7.5	7.7
Large urban	19.3	5.5	4.3	5.1
Other urban	20.5	6.8	5.2	5.0
Rural referral	12.3	7.8	5.8	7.4
Sole community	11.6	5.7	10.3	9.0
Other rural	11.1	5.7	7.6	7.4
Major teaching	24.8	6.5	5.7	7.4
Other teaching	20.4	5.8	5.5	5.4
Non-teaching	16.2	6.2	4.9	5.0
Disproportionate share:				
Large urban	18.1	6.0	5.6	5.8
Other urban	21.2	7.4	5.5	5.4
Rural	12.0	7.3	9.2	8.4
Non-disproportionate share	18.2	5.8	4.8	5.3
Payment adjustments:				
IME and DSH	20.4	6.6	6.0	6.2
IME only	22.5	5.4	5.1	5.6
DSH only	16.8	6.8	5.7	5.2
No IME or DSH	15.8	5.9	4.6	4.9
Urban <100 beds	16.5	6.0	0.3	1.6
Urban 100-199 beds	16.7	5.8	4.1	3.9
Urban 200-299 beds	18.1	5.4	4.5	4.4
Urban 300-399 beds	20.1	6.0	5.4	5.4
Urban 400-499 beds	21.4	6.3	4.9	5.8
Urban 500+ beds	25.2	6.4	5.4	6.4
Rural <50 beds	11.7	5.9	7.0	6.1
Rural 50-99 beds	11.0	5.3	8.7	7.4
Rural 100-149 beds	11.0	6.3	7.7	7.6
Rural 150-199 beds	10.5	7.3	5.1	8.5
Rural 200+ beds	12.7	7.3	7.1	8.2
Voluntary	18.9	5.9	5.0	5.3
Proprietary	17.8	6.2	6.2	5.6
Urban government	19.9	7.2	4.1	6.2
Rural government	11.2	6.4	8.2	7.1

Note: Data for each PPS year (TEFRA, PPS 1, etc.) correspond to each hospital's cost reporting period beginning in that year. For instance, the TEFRA year includes data from each hospital's cost report beginning during the year in which TEFRA was in effect (Federal fiscal year 1983). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6. Data are based on cohorts of hospitals with cost reports available in each of two successive years. TEFRA = Tax Equity and Fiscal Responsibility Act of 1982. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

large increases in PPS payments per discharge in those years and hospitals' initial success in constraining the growth in operating costs per discharge. In the seventh year, the aggregate PPS margin fell below zero for the first time, to –1.5 percent; by the eighth year, it was –3.4 percent.

Table 2-8. PPS Operating Margins, by Hospital Group, Selected PPS Years (In Percent)

Hospital Group	PPS 1	Subsequent PPS Years			
		PPS 5	PPS 6	PPS 7	PPS 8
All hospitals	14.5%	3.6%	1.0%	-1.5%	-3.4%
Urban	15.8	4.3	1.6	-1.1	-3.2
Rural	8.4	-0.4	-2.2	-3.9	-4.5
Large urban	16.5	4.2	1.6	-0.3	-1.7
Other urban	14.9	4.5	1.5	-2.1	-5.0
Rural referral	10.1	4.1	1.6	-2.1	-3.4
Sole community	8.5	-1.9	-4.4	-2.5	-2.0
Other rural	7.5	-3.1	-4.3	-5.6	-6.2
Major teaching	19.4	11.1	8.5	7.1	8.7
Other teaching	16.5	5.1	2.7	0.0	-1.8
Non-teaching	12.3	0.7	-2.1	-5.0	-7.3
Disproportionate share:					
Large urban	17.0	8.1	6.0	4.9	4.1
Other urban	14.9	6.8	4.3	1.4	-0.7
Rural	9.6	0.9	0.4	-0.4	-0.8
Non-disproportionate share	13.8	0.8	-2.1	-5.1	-7.2
Payment adjustments:					
IME and DSH	17.4	9.7	7.5	5.7	4.7
IME only	17.0	2.9	0.4	-2.3	-3.8
DSH only	12.9	3.0	0.9	-1.3	-3.2
No IME or DSH	12.0	-0.5	-3.6	-6.9	-9.4
Urban <100 beds	13.2	0.9	-1.2	-4.0	-8.3
Urban 100-199 beds	14.3	2.8	-0.4	-3.5	-5.3
Urban 200-299 beds	15.0	2.4	-0.5	-3.3	-5.4
Urban 300-399 beds	16.1	4.8	2.3	-0.6	-3.1
Urban 400-499 beds	15.6	6.1	3.5	1.1	-1.0
Urban 500+ beds	19.0	7.3	4.1	2.0	0.5
Rural <50 beds	6.3	-1.6	-1.6	-2.3	-4.1
Rural 50-99 beds	8.8	-1.9	-3.0	-3.2	-3.3
Rural 100-149 beds	8.8	-0.3	-2.1	-3.4	-3.7
Rural 150-199 beds	7.9	1.5	-1.4	-5.2	-5.1
Rural 200+ beds	10.0	1.0	-2.4	-5.5	-6.6
Voluntary	15.0	4.0	1.5	-1.1	-3.3
Proprietary	14.7	1.4	-2.3	-5.0	-4.8
Urban government	15.2	5.7	3.1	0.7	-1.5
Rural government	7.2	-2.1	-3.7	-4.4	-5.5

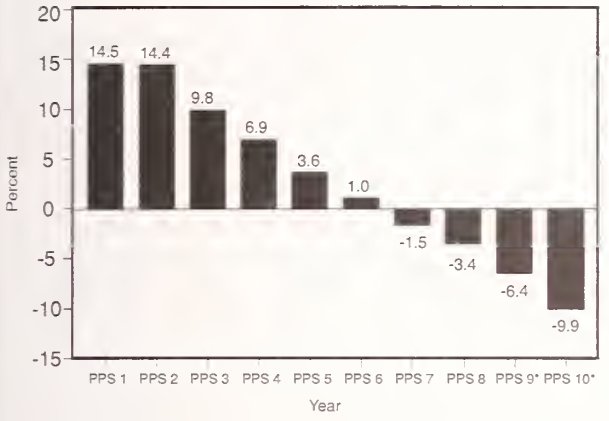
Note: Data for each PPS year (PPS 1, PPS 2, etc.) correspond to each hospital's cost reporting period beginning in that year. For instance, the PPS 1 year includes data from each hospital's cost report beginning during the first year of PPS (Federal fiscal year 1984). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

For the current (tenth) year, ProPAC estimates an aggregate PPS margin of –9.9 percent (see Figure 2-2). This estimate is not as low as previously expected, reflecting the moderation of growth in costs per case in the seventh and eighth years.

The difference in the PPS margins for urban and rural hospitals narrowed considerably over the first eight years. In the first year, the PPS margin for rural hospitals was 8.4 percent, compared with 15.8 percent for urban hospitals—a 7.4 percentage point

Figure 2-2. Aggregate PPS Operating Margin, First 10 Years of PPS (In Percent)



* PPS margin estimated for PPS 9 and PPS 10.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

spread. By the eighth year, the PPS margin for rural hospitals had fallen to –4.5 percent, but the PPS margin for urban hospitals was –3.2 percent—a difference of 1.3 percentage points.

Major teaching hospitals continue to have the highest PPS margin. Moreover, the differences between the PPS margin for major teaching hospitals and those for other teaching hospitals and nonteaching hospitals have grown. The PPS margin for major teaching hospitals declined from 19.4 percent in the first year to 7.1 percent in the seventh year, and then increased to 8.7 percent in the eighth year. The PPS margin for other teaching hospitals fell from 16.5 percent to –1.8 percent over the same period. The aggregate PPS margin for nonteaching hospitals, meanwhile, fell from 12.3 percent to –7.3 percent. The eighth-year PPS margin for major teaching hospitals was therefore 10.5 percentage points higher than for other teaching hospitals and 16.0 percentage points higher than for nonteaching hospitals; these differences were 2.9 percentage points and 7.1 percentage points, respectively, in the first year.

The DSH adjustment also appears to have substantially affected PPS margins, primarily for hospitals in large urban areas. Disproportionate share hospitals in large urban areas had a PPS margin of 4.1 percent in the eighth year, while other groups of disproportionate share hospitals had negative PPS margins. Hospitals that did not receive DSH payments had a PPS margin of –7.2 percent.

The combined effect of the IME and DSH adjustments on PPS margins can readily be seen by comparing hospitals with and without these adjustments. Hospitals receiving both an IME and a DSH adjustment had a PPS margin of 4.7 percent in the eighth year of PPS. Most major teaching hospitals also receive DSH payments, as described earlier. The PPS margin for hospitals receiving IME but not DSH payments was –3.8 percent; for those receiving only DSH payments, it was –3.2 percent. Hospitals that received neither adjustment had a PPS margin of –9.4 percent. Payment adjustments and payment policy changes clearly have disadvantaged certain hospital groups relative to others.

For urban hospitals, there is a strong relationship between hospital size and PPS margin. While urban hospitals with fewer than 100 beds had a PPS margin of –8.3 percent in the eighth year of PPS, those with 500 or more beds had a margin slightly above zero. This may reflect the fact that larger hospitals in urban areas are more likely to receive both IME and DSH payments.

Among rural hospitals in the eighth year, the pattern is different. Although all rural hospital size groups had negative PPS margins, for the largest rural hospitals (at least 200 beds) the margin was –6.6 percent, compared with –4.1 percent for the smallest rural hospitals (fewer than 50 beds).

Distribution of PPS Operating Margins—During the first two years, when PPS operating margins generally were high, there was less concern about hospitals with relatively low margins. PPS payments covered Medicare costs for all but a few hospitals. As PPS margins fall and more hospitals experience financial difficulty under the system, the distribution of PPS margins becomes increasingly important. By the eighth year of PPS, 62.6 percent of all hospitals had negative PPS margins (see Table 2-9). This compares with only 16.8 percent in the first year.

The range of PPS margins grew substantially over the first eight years of PPS. In the first year, the middle half of all PPS hospitals had PPS margins between 3.4 percent and 17.7 percent—a 14.3

Table 2-9. Distribution of PPS Operating Margins and Percentage of Hospitals with Negative Margins, First Eight Years of PPS (In Percent)

Percentile	PPS 1	PPS 2	PPS 3	PPS 4	PPS 5	PPS 6	PPS 7	PPS 8
10th	-6.7%	-8.4%	-14.6%	-18.1%	-23.0%	-24.9%	-27.6%	-29.9%
25th	3.4	2.1	-3.4	-6.4	-9.3	-11.5	-13.9	-16.5
Median	11.2	10.7	5.7	3.8	1.5	-0.8	-3.0	-4.9
75th	17.7	17.8	13.4	11.9	10.6	8.9	7.2	5.8
90th	23.1	24.2	19.5	18.8	18.3	17.2	16.2	14.5
Percentage of hospitals with negative PPS operating margins	16.8	18.7	31.7	39.1	46.0	52.1	57.5	62.6

Note: Data for each PPS year (PPS 1, PPS 2, etc.) correspond to each hospital's cost reporting period beginning in that year. For instance, the PPS 1 year includes data from each hospital's cost report beginning during the first year of PPS (Federal fiscal year 1984). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

percentage point spread. By the eighth year, this difference had grown to 22.3 percentage points.

The distribution of PPS margins within each hospital group was also very wide (see Table 2-10). Though urban hospitals had a higher aggregate PPS margin than rural hospitals in the eighth year, one-fourth of all urban hospitals had PPS margins below –16.3 percent while one-fourth of all rural hospitals had margins greater than 6.7 percent. In fact, a higher percentage of urban hospitals (64.5 percent) than rural hospitals (60.5 percent) had negative PPS margins.

Among major teaching hospitals, the distribution of PPS margins was consistently high relative to other hospital groups. Only 25.2 percent of all the hospitals in this group had negative PPS margins. Disproportionate share and large urban hospitals (groups with considerable overlap) tended to have higher than average PPS margins across the board, even though Medicare costs substantially exceeded PPS payments for some hospitals in these groups. PPS margins for sole community hospitals also tended to be higher than average in each part of the distribution.

Both small urban and large rural hospitals were more likely than other groups to have had negative PPS margins in the eighth year. Almost three-quarters of all rural hospitals with at least 200 beds had PPS margins below zero.

Hospitals with Improving or Deteriorating Performance Under PPS

As stated earlier, the decreasing aggregate PPS operating margin and the widening gap between the highest and lowest margins have intensified interest in the ways that hospitals respond to PPS and the determinants of their financial performance. In a previous study, ProPAC examined hospitals that had consistently high or consistently low PPS margins over a three-year period.[11] The purpose of the analysis was to identify factors in the environment in which the hospital operated, in the payment system, and in the hospital's internal structure that might distinguish hospitals that did well or poorly under PPS from other hospitals.

That study found that hospitals that did well (winners) had positive relations between administration and staff, and exhibited a commitment to cost-conscious practices. Further, successful hospitals pursued management strategies that were well-suited to the environmental and structural characteristics of the facility. Moreover, these strategies had, as a rule, been in place prior to PPS. By contrast, in hospitals with consistently poor PPS performance (losers), management often had to contend with problems in the external and internal environment. The administrative structure for identifying and developing appropriate responses was often lacking as well.

These findings implied that winners under PPS tended to have characteristics that were consistent with the incentives that the system was intended to provide. Hospitals that did poorly under PPS appeared to suffer from management and other problems that prevented them from responding appropriately to PPS incentives. Although the study indicated several management responses associated with good performance under PPS, it

Table 2-10. Distribution of PPS Operating Margins, by Hospital Group, Eighth Year of PPS (In Percent)

Hospital Group	Percentile			Percent with Negative PPS Margins
	25th	Median	75th	
All hospitals	-16.5%	-4.9%	5.8%	62.6%
Urban	-16.3	-5.5	4.8	64.5
Rural	-16.9	-4.2	6.7	60.5
Large urban	-16.0	-4.7	6.2	62.4
Other urban	-16.5	-6.1	3.8	66.6
Rural referral	-12.7	-4.1	5.0	63.1
Sole community	-13.8	-1.9	9.5	55.0
Other rural	-18.7	-4.9	6.2	62.0
Major teaching	-12.1	9.7	17.6	25.2
Other teaching	-18.0	-2.9	6.4	58.5
Non-teaching	-26.8	-5.8	5.0	64.8
Disproportionate share:				
Large urban	-9.0	2.0	12.0	45.3
Other urban	-11.4	-1.3	7.3	54.8
Rural	-11.5	1.0	13.3	48.1
Non-disproportionate share	-18.9	-7.0	3.5	68.0
Payment adjustments:				
IME and DSH	-6.9	4.3	12.8	40.6
IME only	-15.0	-5.2	3.2	66.9
DSH only	-12.8	-1.3	9.4	54.2
No IME or DSH	-19.5	-7.2	3.5	68.1
Urban <100 beds	-20.6	-7.8	4.8	66.9
Urban 100-199 beds	-16.7	-6.2	3.7	67.0
Urban 200-299 beds	-15.6	-6.1	3.3	67.8
Urban 300-399 beds	-15.5	-4.2	5.8	60.4
Urban 400-499 beds	-9.1	-1.3	7.4	55.1
Urban 500+ beds	-9.8	-0.5	8.7	51.0
Rural <50 beds	-19.7	-4.3	8.0	59.6
Rural 50-99 beds	-14.6	-3.2	7.6	58.9
Rural 100-149 beds	-14.1	-4.1	5.4	60.0
Rural 150-199 beds	-15.3	-4.4	3.2	67.3
Rural 200+ beds	-16.8	-8.0	0.4	74.0
Voluntary	-16.0	-4.9	5.4	64.0
Proprietary	-18.3	-5.0	7.3	61.3
Urban government	-15.4	-4.9	7.8	61.4
Rural government	-17.8	-4.2	6.3	59.9

Note: Excludes hospitals in Maryland. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

did not address the issue of how or even whether it is possible to reverse poor performance.

As a follow-up to this study, the Commission is examining hospitals with improving or deteriorating performance under PPS. As before, the factors that might determine the hospital's ability to improve its PPS operating margin or its susceptibility to deterioration are grouped under three headings: external environment, the payment system, and internal characteristics. The external environment may generate opportunities for

improvement but also may impose constraints on hospital management. As discussed earlier, PPS design features may benefit some hospitals and reduce revenues for others. Management actions may change internal characteristics to improve production efficiency and reduce costs.

Hospitals with improving PPS operating margins ("turnarounds") were defined as those with margins in the bottom quartile of the distribution among all urban or all rural hospitals in the fourth year of PPS, but above the fiftieth percentile in the seventh year. Additionally, turnarounds were required to have had at least two annual increases in their PPS margins between the fourth and seventh years.

Hospitals with deteriorating PPS operating margins ("runagrounds") were defined as those with margins above the fiftieth percentile among all urban or all rural hospitals in the fourth year and in the bottom quartile in the seventh year. Additionally, their PPS margins had to have declined at least twice between the fourth and seventh years. Each of these four study groups (urban and rural turnarounds and runagrounds, respectively) is compared with other hospitals that performed similarly in the fourth year.

Some preliminary findings from this study are presented below. First, financial performance measures are compared among the four study groups. Characteristics related to the external environment, PPS design, and internal characteristics of urban turnarounds and runagrounds are then contrasted with those of the comparison hospitals. Similar analyses are presented for the rural hospital groups.

Financial Performance—Between the fourth and seventh years of PPS, rural hospitals were more likely than urban hospitals to have improved their relative PPS performance (see Table 2-11). Of the 515 rural hospitals with fourth year PPS operating margins in the bottom quartile, 23.3 percent met the criteria for turnarounds. Of the 557 urban hospitals with PPS margins in this category, only 15.3 percent qualified as turnarounds. However, financial performance was more likely to have worsened substantially for rural hospitals than for urban facilities. Of the 1,029 rural hospitals with PPS margins in the top half of the distribution in the fourth year, 11.0 percent were characterized as runagrounds; among the 1,112 urban hospitals in this category, only 8.9 percent were runagrounds.

The changes in PPS performance for the various groups of hospitals were paralleled by shifts in broader measures of short-term performance, such as the total payment to cost ratio and the current ratio.[12] This indicates that whatever changes were taking place had effects that extended beyond the PPS margin.

The debt to asset ratio, one measure of long-term performance, indicates that turnarounds increased their debt or experienced less reduction in indebtedness than other hospitals. This may signify that turnarounds take more risks or have better access to credit.

Urban Hospitals—The external environments of the urban runagrounds, turnarounds, and the respective comparison groups appear similar (see Table 2-12). An exception is that the urban turnaround hospitals had a higher average market share throughout the period than their comparison group. Conversely, urban runaground hospitals appear to have been at a relative disadvantage due to their lower average market share.

The change in PPS operating payments per case was markedly dissimilar across the groups. In particular, payments per case increased more slowly on average for the urban runagrounds than for the comparison hospitals. One potential explanation for these differences may be the increase in DSH payments in fiscal year 1990; runagrounds were less likely to be eligible for these payments.

Of greater consequence, however, is that the average increase in Medicare operating costs per case was only about one-fourth as great for the urban turnarounds as for the comparison group. Similarly, the urban runagrounds had a 50 percent increase in costs per case, while the comparison group experienced a 32 percent increase. Improvement in performance appears to be correlated more with controlling costs than with changes in Medicare payment provisions.

Had turnarounds gained more admissions than the other groups during this period, one might attribute their greater ability to control costs to the resulting decrease in fixed costs per case. However,

Table 2-11. Financial Performance of Selected Hospital Groups, Fourth and Seventh Years of PPS

Hospital Group	Number of Hospitals	Average PPS Payment to Cost Ratio			Average Total Revenues to Expenses Ratio			Percent Change PPS 4-PPS 7	
		PPS 4	PPS 7	Percent Change	PPS 4	PPS 7	Percent Change	Current Ratio	Debt to Asset Ratio
Urban									
Runagrounds	99	1.15	0.82	-28.9%	1.05	1.00	-4.0%	-14.4%	-3.9%
Comparison	1,013	1.18	1.07	-9.2	1.04	1.04	-0.4	-5.9	-4.2
Turnarounds	85	0.93	1.08	15.8	0.99	1.04	5.1	-1.3	3.2
Comparison	472	0.91	0.84	-7.4	1.01	1.02	1.2	-10.4	-3.3
Rural									
Runagrounds	113	1.09	0.80	-26.4	1.05	0.99	-5.0	-11.2	-19.9
Comparison	916	1.12	1.07	-4.8	1.04	1.04	0.0	-1.3	-17.5
Turnarounds	120	0.83	1.09	33.0	0.95	1.05	11.7	-2.0	-9.8
Comparison	395	0.83	0.82	-0.2	0.98	1.00	2.6	-5.3	-13.8

Note: Runagrounds are hospitals that had PPS margins in the top half of the distribution among all urban or rural hospitals in the fourth year of PPS (PPS 4), but in the lowest quartile by the seventh year (PPS 7), with declines in at least two of the three intervening years. Turnarounds are hospitals with PPS 4 margins in the bottom quartile and PPS 7 margins in the top half, with increases in at least two of the three years. Comparison groups consist of hospitals with similar PPS performance in the fourth year.

SOURCE: ProPAC analysis.

the growth in admissions was not greater for turnarounds than for other hospitals. Consequently, the changes in costs per case do not appear to be explained by changes in volume.

Differences in the ability to control costs appear to apply across the board—turnarounds had smaller increases in overhead, ancillary, supply, and pharmaceutical costs. Although pharmaceutical costs constitute only a small proportion of the total, their rate of increase is particularly striking. This is consistent with the findings of ProPAC's previous analysis, in which control of the formulary and careful protocols developed by physician staff for expensive drugs were noted among some of the hospitals with consistently high PPS margins.

Several other factors may have aided the turnarounds in cost control. Turnarounds controlled their labor costs relative to their wage index slightly more than did their comparison group. Turnarounds also reduced their length of stay relative to patient mix.[13] By contrast, runagrounds had less control than their comparison group over their labor costs and relative length of stay.

Rural Hospitals—Environmental factors such as low population density and personnel shortages might be expected to impair the ability of hospitals to improve their performance. However, rural turnarounds were more likely than the comparison hospitals to be located in sparsely populated areas (see Table 2-13). Perhaps mitigating the effect of a low potential pool of admissions was the lower proportion of rural turnarounds located in areas with shortages of health personnel. Rural runagrounds were also more likely than their comparison group to be located in sparsely populated areas. Unlike the turnarounds, however, these hospitals were likelier to be in areas with shortages of health personnel. Thus, rural hospitals appear to be hampered more by scarcity of personnel than by low population density.

Hospitals frequently are thought of as attempting to better their performance by capturing a greater share of their market. Rural turnarounds, though, were not found to have boosted their market shares over the study period. However, this may be because the market shares of the rural turnarounds were higher at the outset than the market shares of their comparison hospitals. The market shares of runagrounds were lower than their comparison hospitals. Rather than directly affecting performance, a higher market share may enhance the ability of the hospital to engage in other strategies that improve financial status.

Of the four groups of rural hospitals studied, turnarounds had the greatest increase in payments per case. Changes in PPS policies may explain part

Table 2-12. Characteristics of Selected Groups of Urban Hospitals, Fourth and Seventh Years of PPS (In Percent)

Characteristic	Runagrounds	Comparison	Turnarounds	Comparison
External environment				
Change in population	1.8%	2.4%	3.0%	2.7%
Market share (PPS 4)	10.3	16.0	13.3	9.5
PPS design				
Change in payments per case	8.7	19.1	22.7	16.2
Change in wages relative to wage index	8.8	5.6	8.0	8.8
Large disproportionate share[a] (PPS 7)	0.0	6.0	4.7	1.7
Major teaching (PPS 7)	1.1	9.2	4.5	2.1
Other teaching (PPS 7)	24.7	36.0	31.5	24.8
Internal characteristics				
Change in:				
Total costs per case	50.1	32.0	7.2	26.6
Overhead cost per case	30.1	29.5	19.6	24.8
Ancillary cost per case	44.3	35.8	25.7	32.6
Pharmacy cost per case[b]	49.0	36.4	18.4	39.1
Supply cost per case[b]	48.3	47.6	35.4	50.5
Admissions per full-time equivalent	6.0	2.8	11.0	19.0
Relative length of stay[c]	3.8	0.8	-6.1	-1.2

Note: Runagrounds are hospitals that had PPS margins in the top half of the distribution among all urban or rural hospitals in the fourth year of PPS (PPS 4), but in the lowest quartile by the seventh year (PPS 7), with declines in at least two of the three intervening years. Turnarounds are hospitals with PPS 4 margins in the bottom quartile and PPS 7 margins in the top half, with increases in at least two of the three years. Comparison groups consist of hospitals with similar PPS performance in the fourth year.

[a] At least 100 beds.

[b] Hospital cost per case adjusted for factor-related case-mix differences.

[c] Hospital average length of stay adjusted for case mix.

SOURCE: ProPAC analysis.

of the difference. For example, the special provision affecting payments for sole community hospitals was implemented during this time; turnarounds were likelier than other hospitals to have benefited from this provision. A similar provision was added for small rural Medicare-dependent hospitals; turnarounds also were likelier to qualify for this adjustment. The DSH payments for rural hospitals were also increased during this period; turnarounds were likelier to receive these payments as well. Finally, turnarounds were more likely to be located in the handful of rural counties redesignated as urban for purposes of determining the hospital wage index under OBRA 1987.[14]

As with urban hospitals, however, the differences in cost growth were more striking than differences in PPS payment trends. Over the study period, turnarounds' costs per case increased by only 2.0 percent on average, while the comparison hospitals' costs increased by an average of 25.5 percent. Such differences also were observed for some of the major components of per-case costs: overhead, ancillary services, pharmacy, and supplies.

To control costs, turnaround hospitals improved their productivity and reduced their relative length of stay. By contrast, runagrounds had reduced productivity and increased relative length of stay. Unlike the urban groups, differences in productivity (and costs) for rural hospitals may partially reflect changes in admissions, which declined 10 percent for the runagrounds and increased 17 percent for the turnarounds.

Summary—In ProPAC's previous analysis of winning and losing hospitals, hospitals that did consistently well over time seemed to have had a longstanding commitment to cost control, with awareness of the need to control costs evident at all levels of organization. The current study indicates that hospitals that turned around their PPS performance have successfully emulated this feature of winning hospitals.

Table 2-13. Characteristics of Selected Groups of Rural Hospitals, Fourth and Seventh Years of PPS (In Percent)

Characteristic	Runagrounds	Comparison	Turnarounds	Comparison
External environment				
Low population density area (PPS 4)	19.5%	14.0%	25.8%	20.2%
Health Professional Shortage Area (PPS 4)	36.3	33.7	24.2	33.2
Market share (PPS 4)	71.6	81.3	81.1	71.9
PPS design				
Change in payments per case	17.8	24.0	32.2	24.0
Sole community (PPS 7)	5.3	7.9	19.2	12.4
Referral (PPS 7)	8.8	15.4	3.3	5.3
Disproportionate share[a]	6.2	9.5	15.0	6.8
Redesignated[b] (PPS 7)	0.9	1.0	5.8	2.5
Small Medicare-dependent[c] (PPS 7)	4.4	4.4	28.3	12.9
Change in wages relative to wage index	5.4	3.3	3.6	4.6
Internal characteristics				
Change in:				
Costs per case	61.0	32.0	2.0	25.5
Overhead cost per case	52.9	32.1	9.5	26.9
Ancillary cost per case	58.7	38.0	16.8	31.8
Pharmacy cost per case[d]	65.8	40.6	13.3	31.6
Supply cost per case[d]	70.1	47.8	14.0	41.2
Admissions per full-time equivalent	-12.0	8.7	14.5	0.3
Expected length of stay	5.0	0.8	-6.5	1.0

Note: Runagrounds are hospitals that had PPS margins in the top half of the distribution among all urban or rural hospitals in the fourth year of PPS (PPS 4), but in the lowest quartile by the seventh year (PPS 7), with declines in at least two of the three intervening years. Turnarounds are hospitals with PPS 4 margins in the bottom quartile and PPS 7 margins in the top half, with increases in at least two of the three years. Comparison groups consist of hospitals with similar PPS performance in the fourth year.

[a] This category does not include sole community or rural referral hospitals or hospitals larger than 500 beds.

[b] Hospitals in certain rural counties redesignated to a metropolitan statistical area for the determination of the wage index under the provisions of OBRA 1987.

[c] Small rural Medicare-dependent hospitals are rural hospitals with fewer than 50 beds that have a Medicare share of admissions or inpatient days exceeding 60 percent. These hospitals received special treatment under PPS similar to that accorded sole community hospitals; this provision expired on March 31, 1993.

[d] Hospital cost per case adjusted for factor-related case-mix differences.

SOURCE: ProPAC analysis.

The previous study also found that hospitals that performed well were likely to have benefited from certain PPS design features. Similarly, the turnaround hospitals appear to have benefited from PPS payment features, principally through new PPS adjustments or changes in existing ones. However, the ability to control costs appears to have been the most powerful determinant of changes in PPS performance.

OVERALL HOSPITAL FINANCIAL STATUS

Federal policy makers are increasingly interested in analyzing the overall financial status of the hospital industry. One reason is that the effects of Medicare and Medicaid policies are not independent of the policies adopted by other payers and vice versa. Another is that continued access to hospital care for Medicare beneficiaries, Medicaid recipients, and others depends on hospitals' overall financial strength.

Hospital financial status has several dimensions and can be measured in different ways. This section begins with data on hospital resources and then describes the trend in total hospital expenses and revenues. Next, it discusses overall financial performance, as represented by total hospital margins.

Hospital Resources

Providing hospital care requires many types of resources, including labor, capital, and various non-labor inputs. Some of these non-labor inputs, such as food, are used in other sectors in the economy; others, such as prescription drugs, are virtually unique to the health care sector. The mix and

amount of resources hospitals use are critical in determining the nature, quality, and cost of the care they provide.

This section first describes the use of inpatient hospital capacity, a key determinant of hospital resource use. It then discusses changes in employment and non-labor inputs. It also provides an overview of hospital capital costs and the industry's use of tax-exempt financing. Finally, changes in hospital productivity are discussed.

Inpatient Utilization—The extent to which inpatient capacity is used affects hospital costs in several ways. First, the level of use helps determine the amount of labor hospitals employ and the volume of non-labor operating resources they purchase. Second, increases or decreases in use affect hospitals' market position and financial viability. Capital resources like plant and equipment are fixed regardless of the number of patients treated. As the number of patients decreases or increases, the cost per patient goes up or down. Although fixed costs remain unchanged, changes in cost per patient may affect hospitals' ability to survive financially.

The use of inpatient capacity has fallen substantially since PPS was introduced. Although the number of hospital beds declined at a rate of –1.1 percent per year from 1984 through 1992, this has not matched the decreased demand for inpatient care (see Table 2-14). Both length of stay and admissions fell over this period, with particularly sharp drops when PPS was implemented in 1984. Hospital occupancy rates declined from an average of 74.6 percent between 1980 and 1983 to 62.1 percent in 1992. Virtually all this decline occurred in 1984 and 1985, shortly after the implementation of PPS.

Changes in Hospital Employment—In the early 1980s, hospital employment levels were increasing. This halted in 1983 and was followed by a drop in 1984, with reductions in both full-time and part-time employees (see Table 2-15). These reductions were associated with the decline in utilization in 1984, when PPS was implemented. Employment growth began again in 1986 and continued through the end of the decade, with the number of part-time employees growing faster than the number of full-time workers through 1990. As with many sectors in the economy, the use of part-time employees allows hospitals to adjust staffing to fluctuating demand. In 1991, however, the number of part-time employees grew by only 0.2 percent while full-time workers rose by 3.9 percent. This led to an increase

Table 2-14. Change in Average Hospital Occupancy Rate and Number of Beds, 1980-1992

Year	Occupancy Rate	Percent Change	Number of Beds*	Percent Change
1980	75.9%	1.9%	970,500	1.2%
1981	75.8	-0.1	986,900	1.7
1982	74.6	-1.6	997,700	1.1
1983	72.2	-3.2	1,003,700	0.6
1984	66.6	-7.8	992,600	-1.1
1985	63.6	-4.5	974,600	-1.8
1986	63.4	-0.4	963,100	-1.2
1987	64.1	1.1	954,500	-0.9
1988	64.5	0.6	942,300	-1.3
1989	64.9	0.6	930,100	-1.3
1990	64.5	-0.6	921,400	-0.9
1991	63.5	-1.6	911,800	-1.0
1992	62.1	-2.2	907,700	-0.5
Averages:				
1980-1983	74.6	-0.8	989,700	1.1
1984-1992	64.1	-1.7	940,100	-1.1

* Numbers of beds rounded to nearest 100.

SOURCE: American Hospital Association National Hospital Panel Survey.

Table 2-15. Change in Hospital Employment, 1981-1991 (In Percent)

Year	Full-Time Personnel	Part-Time Personnel	Unadjusted FTEs	Average Skill Mix
1981	3.6%	10.4%	4.5%	-0.1%
1982	1.9	3.5	2.2	0.2
1983	-0.2	0.1	-0.2	0.6
1984	-2.3	-4.2	-2.5	0.7
1985	-1.3	1.9	-0.8	0.4
1986	1.0	0.7	1.0	1.1
1987	2.8	3.1	2.9	0.1
1988	2.4	5.3	2.8	-0.2
1989	2.5	5.7	3.0	0.0
1990	3.0	5.5	3.3	-0.1
1991	3.9	0.2	3.4	0.1
Averages:				
1981-1983	1.8	4.6	2.1	0.2
1984-1991	1.5	2.2	1.6	0.3

Note: FTE = full-time equivalent.

SOURCE: American Hospital Association Annual Hospital Survey.

in overall employment, measured by full-time equivalent (FTE) workers, of 3.4 percent. Labor costs were responsible for almost 54 percent of total hospital expense, with about 44 percent for wages and salaries and about 9 percent for benefits.

In the 1980s, hospitals hired more skilled employees. As employment declined or grew slowly from 1984 through 1986, skill mix increased 0.7 percent per year, with slower growth in 1982 and 1987.[15] Since 1988, there has been little change in skill mix. This reflects the stabilization of the share of registered nurses (RNs) in the hospital nursing work force, which rose from 1983 to 1987, but has not changed much since (see Table 2-16).

The case of nursing personnel is the clearest example of the rise in skill mix. The shares of total hospital employment in other categories remained relatively stable between 1983 and 1991, with modest increases in the percentage of more highly trained personnel in the occupational and physical therapy fields. However, RNs as a percentage of the nursing staff rose from 57.0 percent in 1983 to 65.8 percent in 1991. Licensed practical nurses (LPNs) have less training than RNs and require more supervision. Although RNs cost more than LPNs, the literature suggests that hospital management regards RNs as more productive because of their higher skill level.[16] In the mid-1980s, the salary differential between RNs and LPNs was relatively modest. The greater productivity of RNs led hospitals to hire more of them, thereby increasing the RN share of the hospital nursing work force.

Employment of more highly skilled, better-paid workers explains some of the increase in hospital labor costs in the 1980s. However, even after adjusting for skill mix changes, hospitals continue to incur higher labor expenses per FTE employee. Total compensation climbed by almost 12 percent per year in the early 1980s, but this abated in 1984, reflecting lower economywide inflation and hospital responses to PPS (see Table 2-17). Total compensation per FTE rose an average of about 4 percent per year from 1985 through 1987, then accelerated to almost 7 percent annually from 1988 through 1991. Higher employee benefit payments contributed to this increase.

Non-Labor Costs—In 1992, about 38 percent of total hospital spending was for non-labor costs other than capital.[17] These include items ranging from malpractice premiums and pharmaceuticals to paper goods and food, as well as payments for contract labor such as temporary nurses. Since PPS implementation, aggregate non-labor expenses have grown faster than those for labor in every year. This basically is attributable to the early decline and subsequent modest growth in hospital employment rather than the sustained inflation in important categories of non-labor costs. From 1984 through 1987, the average annual rate of increase in aggregate non-labor expenses was more than three percentage points greater than the rate of increase in labor expenses. From 1987 through 1991, the difference was a more modest 0.8 percentage points per year. In 1992, however, non-labor expenses grew about 1.4 percentage points faster than labor expenses.

Table 2-16. Professional Personnel in Various Labor Categories, 1983-1991 (In Percent)

	Labor Category				
Year	Nursing	Medical Records	Pharmacy	Occupational Therapy	Physical Therapy
1983	57.0%	16.4%	54.1%	78.6%	53.5%
1984	60.0	16.1	54.6	79.1	55.1
1985	62.5	15.9	54.7	79.5	55.9
1986	64.6	15.9	54.1	81.4	57.0
1987	65.1	16.2	53.9	80.3	56.9
1988	64.9	15.2	53.3	80.4	57.0
1989	64.9	15.0	53.0	79.3	57.2
1990	64.8	14.8	52.3	78.8	56.8
1991	65.8	14.5	52.7	79.2	57.3

Note: Professional personnel are registered nurses, medical records administrators, licensed pharmacists, occupational therapists, and physical therapists.

SOURCE: American Hospital Association Annual Hospital Survey.

Table 2-17. Change in Labor Expenses Per FTE Employee, 1981-1991 (In Percent)

Year	Salary Expenses	Benefit Expenses	Total Compensation
1981	11.8%	17.1%	12.5%
1982	11.8	18.4	12.7
1983	9.4	15.4	10.3
1984	6.7	10.0	7.2
1985	4.1	6.0	4.4
1986	3.6	1.2	3.2
1987	3.9	2.4	3.7
1988	7.0	7.8	7.1
1989	5.7	10.9	6.5
1990	7.4	9.7	7.8
1991	6.2	11.7	7.1

Note: Expenses and total compensation are adjusted for changes in skill mix. FTE = full-time equivalent.

SOURCE: American Hospital Association Annual Hospital Survey.

Capital Costs—In 1992, capital depreciation and interest expense represented about 8.2 percent of total hospital costs, or 8.9 percent of operating costs (see Table 2-18). This is a slight decrease from the levels of the late 1980s. From 1980 until 1987, capital costs grew substantially faster than operating costs. As a result, capital costs rose as a share of total hospital costs.

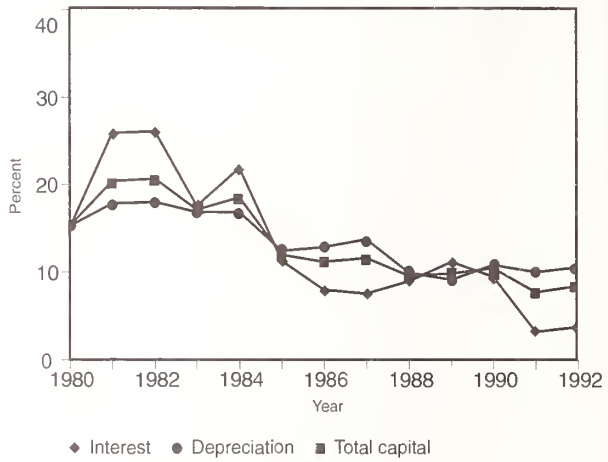
Capital costs grew about 8.4 percent from 1991 to 1992 (see Figure 2-3). As in 1991, the slowdown in the rate of growth in capital costs was due largely to the comparatively small increase (3.7 percent) in interest expense. Depreciation—approximately two-thirds of total capital costs—rose 10.6 percent.

Table 2-18. Capital Cost as a Share of Total Hospital Cost and Operating Cost, and Change in Shares, 1980-1992 (In Percent)

Year	Capital/ Total Cost	Annual Percent Change	Capital/ Operating Cost	Annual Percent Change
1980	6.2%	-1.5%	6.6%	-1.6%
1981	6.3	1.4	6.7	1.5
1982	6.5	4.2	7.0	4.5
1983	6.9	6.3	7.5	6.8
1984	7.9	13.1	8.5	14.2
1985	8.3	5.3	9.0	5.8
1986	8.4	2.0	9.2	2.2
1987	8.5	1.0	9.3	1.1
1988	8.5	-0.5	9.3	-0.6
1989	8.5	-0.1	9.3	-0.1
1990	8.4	-0.7	9.2	-0.8
1991	8.3	-2.0	9.0	-2.1
1992	8.2	-0.9	8.9	-1.0

SOURCE: ProPAC analysis of American Hospital Association National Hospital Panel Survey.

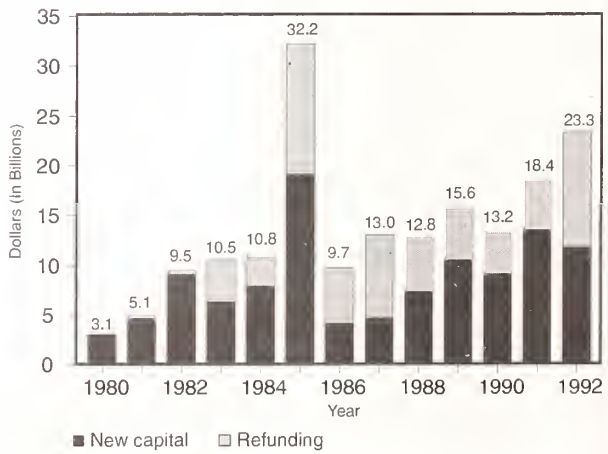
Figure 2-3. Change in Capital Costs: Interest, Depreciation, and Total Capital, 1980–1992 (In Percent)



SOURCE: American Hospital Association National Hospital Panel Survey.

Tax-Exempt Debt Financing and Access to Capital Markets—Debt financing is a critical part of hospital capital financing. Total tax-exempt health care and nursing home bond volume increased 26 percent from 1991 to 1992 (see Figure 2-4). Total health care and nursing home tax-exempt municipal bond volume was approximately

Figure 2-4. Health Care and Nursing Home Tax-Exempt Municipal Bond Volume, 1980–1992 (In Billions)



SOURCE: Information for 1980 to 1991 from Securities Data Co., Inc., and for 1992 from *The Bond Buyer*, February 1, 1993.

$23 billion in 1992. General acute care hospitals accounted for about 83 percent of this total. As interest rates declined in the late 1980s, a significant portion of bond volume related to refinancing prior issues. However, in 1992, 50 percent was for new capital.[18]

Hospitals can improve their prospects for access to bond financing by arranging for credit enhancements, such as bond insurance or a bank letter of credit. In recent years, a larger portion of hospital bonds has been backed by some form of credit enhancement. In 1992, about 50 percent of bond volume was backed in this fashion, down from 58 percent in 1991. This suggests easier access to debt markets for those hospitals issuing debt, but still contrasts with a rate of 3 percent in 1980.

Hospital access to capital markets depends on various factors, including the credit rating of the facility. A higher credit rating is usually associated with a lower interest rate and greater availability of debt financing. Credit ratings are based on factors like the strength of the industry, the hospital's market position and operating efficiency, and the adequacy of hospital cash flow. They are set by major credit rating agencies like Moody's and Standard & Poor's. In 1992, Standard & Poor's downgraded 43 private, nonprofit hospital bond issues totaling $1.2 billion and upgraded 35 issues totaling $1.8 billion. (These totals exclude changes due to the downgrade of California State government obligations, since such changes do not reflect hospital financial position.) This represents a 1.2 to 1 ratio of the number of downgrades to upgrades, an improvement over ratios of 4.2 to 1 in 1991 and 2.8 to 1 in 1990.[19]

Hospital Productivity Change—One of the key factors determining the level of hospital cost growth is the change in productivity, or how much product is obtained for the resources spent. Increased productivity implies that the hospital is either producing more output with the same resources, or the same output with fewer resources.

ProPAC has developed productivity measurements for the inputs hospitals use to deliver inpatient care. Separate input measures have been devised for labor, supplies and services, and capital. These are combined on a weighted basis to produce a measure of aggregate total factor productivity.[20]

The Commission defines hospital output as the number of admissions, adjusted for real case-mix change and outpatient activity. The resulting productivity measure of combined inputs per adjusted admission implicitly assumes that hospital services are inputs contributing to the production of the final output, a completed admission.

The Commission also uses two measures that permit changes in aggregate productivity to be examined in more detail. The first measure—referred to as intermediate productivity—provides information regarding the efficiency of hospitals in producing intermediate services (such as laboratory tests, surgeries, and days of nursing care). The second measure examines changes in the number and type of intermediate services that hospitals produce, after controlling for changes in the complexity of patients treated. These intensity increases may reflect longer stays, greater use of existing technology, or the adoption of expensive new technology to provide service add-ons or substitute for less complex procedures.[21]

As part of the initial response to prospective payment, hospitals reduced their intensity of services significantly, with most of the reduction taking the form of a decline in length of stay. (See Chapter 3.) Intensity growth resumed after the first two years of PPS, however, rising by about 2.5 percent in both 1986 and 1987 (see Table 2-19). Since then, the industry has succeeded in steadily scaling back the size of its intensity increases, reaching zero in 1990. Intensity rose again in 1991, but at the rate of only 0.6 percent.

Aggregate productivity has risen only once since ProPAC's measurement began in 1983. This 0.8 percent improvement in 1984 was at least partially in response to the introduction of PPS. After significant productivity drops over the next two years, the annual declines of less than 1 percent in 1988 through 1990 suggested a trend of stabilizing productivity. However, the 1991 result—a decline of 1.8 percent—does not indicate a continuation of this trend.

The greater overall productivity drop in 1991 was largely attributable to a decline in intermediate productivity. After accounting for the resources needed to meet the rising volume and complexity of admissions, 1.1 percent more inputs were used in producing patient care services that year than the previous year.

Table 2-19. Change in Aggregate Total Factor Productivity and Its Components, 1984-1991 (In Percent)

Year	Intermediate Productivity[a]	Case-Mix Constant Intensity of Services	Aggregate Productivity[b]
1984	-2.0%	-2.6%	0.8%
1985	-4.0	-2.2	-1.5
1986	-1.1	2.4	-3.5
1987	-0.9	2.5	-3.5
1988	0.7	1.6	-0.9
1989	0.3	0.8	-0.6
1990	-0.4	0.0	-0.5
1991	-1.1	0.6	-1.8

Note: Change in intermediate productivity minus change in intensity of services equals change in aggregate productivity, although this relationship may not be exact due to rounding.

[a] Defined as service output such as X-rays, laboratory tests, and days of nursing care per unit of labor, supply and service, and capital inputs.

[b] Defined as admissions per unit of input (weighted average of labor, supply and service, and capital inputs), with admissions adjusted for real case-mix change and outpatient activity.

SOURCE: ProPAC analysis based on data from the American Hospital Association Annual Survey.

Hospital Expenses and Revenues

The key factors in determining hospitals' overall financial status are the flows of total expenses and revenues. The sources of hospital revenue by the types of services that generate them are described below. Trends in total expenses and revenues are then compared to indicate the extent to which hospitals have succeeded in controlling the increase in expenses and whether revenues have kept up with these increases.

Sources of Hospital Revenues—The mix of hospital revenues by type of service has changed over time (see Table 2-20). Inpatient services still account for most hospital revenues, but declined to 70 percent in 1992 from 83 percent in 1980. Outpatient services are an increasingly important revenue source, accounting for 25 percent of revenue in 1992, compared with 13 percent in 1980.

The greater share of outpatient revenue can be explained by two factors: the shift to the outpatient department of services that previously were performed on an inpatient basis and the rapid growth of outpatient volume beyond the shift from inpatient care. (See Chapter 3.) Large increases in outpatient revenue as a proportion of total revenues began during the early years of PPS. This reflected declines in admissions for both the Medicare and the non-Medicare populations, sharp reductions in the average length of stay for Medicare beneficiaries, and a decline in ancillary services provided during inpatient stays. These changes were consistent with the incentives of PPS and the utilization review efforts of the Federal Peer Review Organizations and private payers. They were facilitated by technological changes that made it easier to provide many new services on an outpatient basis. Aggregate outpatient revenue has grown at a faster pace than inpatient revenue in every year since 1980.

Outpatient revenue per visit has grown rapidly as well, at an average annual rate of 11 percent between 1984 and 1992, compared with almost 9 percent for inpatient revenue per admission. This difference may reflect the increasing complexity of procedures being performed in outpatient departments, as well as more rigorous controls on inpatient payments than on outpatient payments.

Non-patient revenue has also become more important in recent years. These funds come from philanthropic sources; government grants; interest on endowments; and services and concessions such as physician office buildings, parking lots, and gift shops. Non-patient revenue has grown as a proportion of total hospital revenues since PPS has been in effect, increasing from 4.2 percent in 1983 to 4.9 percent in 1992.

Trends in Hospital Expenses and Revenues—Annual changes in hospital expenses and revenues have varied greatly in recent years. Real expenses per adjusted admission rose between 2.5 percent and 5.2 percent annually in the late 1970s.[22] In the early 1980s, however, hospital costs per case grew more rapidly, at a real rate of 8.4 percent in 1982 (see Figure 2-5).

With the introduction of PPS for Medicare, growth in real expenses per adjusted admission slowed to 2.9 percent in 1984. This was the smallest growth since the early 1970s. Nonetheless, hospital inflation was still greater than inflation in the economy as a whole. Beginning in 1985 there was another increase in hospital inflation, with real costs per case rising between 4.4 percent and 6.1 percent annually. Growth in real expenses per adjusted admission slowed to 3.3 percent in 1990,

Table 2-20. Change in Hospital Revenue and Proportion of Revenues, by Source, 1980-1992 (In Percent)

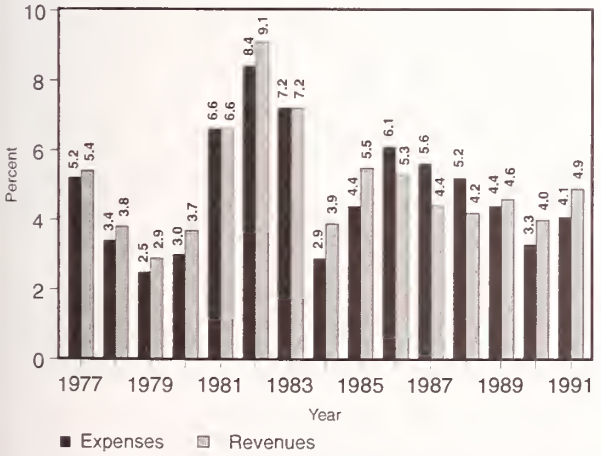
Year	Change in Revenue: Inpatient Revenue Per Admission	Change in Revenue: Outpatient Revenue Per Visit	Proportion of Revenues: Inpatient	Proportion of Revenues: Outpatient	Proportion of Revenues: Other
1980	14.5%	15.8%	83.2%	12.5%	4.3%
1981	17.3	19.2	82.7	12.7	4.5
1982	16.2	16.8	82.7	12.9	4.4
1983	10.4	11.5	82.4	13.4	4.2
1984	8.6	12.4	81.3	14.4	4.3
1985	8.9	13.2	79.3	16.1	4.6
1986	8.5	8.3	78.0	17.5	4.5
1987	8.9	10.7	76.8	18.6	4.6
1988	8.5	11.4	75.2	20.0	4.8
1989	9.4	11.5	74.0	21.1	4.9
1990	9.2	11.7	72.5	22.5	5.0
1991	9.3	12.0	71.1	24.0	4.8
1992	8.2	8.6	69.8	25.4	4.9
Averages:					
1980-1983	14.6	15.8			
1984-1992	8.8	11.1			

SOURCE: American Hospital Association National Hospital Panel Survey.

the smallest increase since the first year of PPS. Real cost growth accelerated somewhat in 1991, to 4.1 percent.

During the 1970s, when most hospital expenses were reimbursed on the basis of costs, hospital revenues tended to follow the trend in hospital expenses relatively closely. In the 1980s, however, there were greater differences between increases in revenues and expenses. In 1982, when real expenses per adjusted admission rose at the fastest rate of the decade (8.4 percent), real revenues per adjusted admission grew even more rapidly (9.1 percent). In the first two years of PPS, real costs per case increased by an average of 3.6 percent per year and real revenue by an average of 4.7 percent. Cost increases exceeded revenue growth from 1986 to 1988, while the opposite occurred from 1989 through 1991. More recent data indicate that revenue growth equaled cost growth in 1992.[23]

Figure 2-5. Change in Real Hospital Expenses and Revenues Per Adjusted Admission, 1977–1991 (In Percent)



SOURCE: American Hospital Association Annual Hospital Survey.

Total Hospital Margins

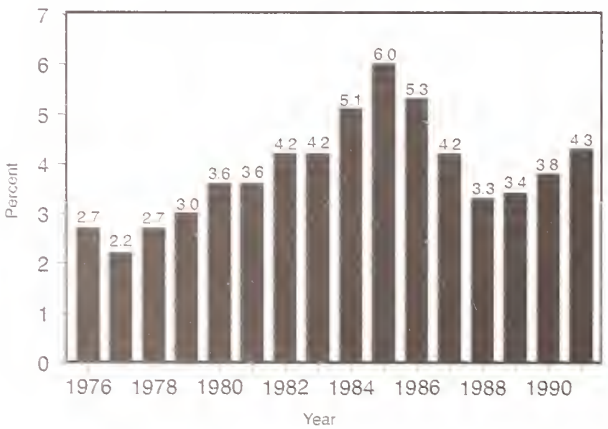
The total hospital margin compares hospital revenues and expenses for all inpatient and outpatient care as well as for non-patient care activities. It is a useful indicator of overall hospital financial status. Trends in total margins over time are described below using data from the American Hospital Association's (AHA) Annual Survey of hospitals. The distribution of total margins across hospital groups under PPS is then discussed using data from the Medicare Cost Reports submitted to HCFA. The AHA and HCFA data differ slightly because

they are derived from different sources and cover different reporting periods. They are generally comparable, however, and the cost report data are useful in indicating trends across hospital groups. The Medicare Cost Report data also are used to describe the distribution of total margins within hospital groups.

Trends in Total Margins—As the data on expenses and revenues discussed earlier indicate, there has been a cyclical trend in total hospital margins over the past decade and a half (see Figure 2-6). In 1976, the aggregate total margin was 2.7 percent, reflecting a recovery from the restrictions of wage and price controls under the Economic Stabilization Program in effect from 1971 to 1974. Revenues and expenses climbed during the late 1970s, with revenues growing faster than costs, increasing the total margin to 3.6 percent by 1980. In the early 1980s, expenses began to rise rapidly. But again, revenues grew even more rapidly, resulting in a total margin of 4.2 percent by 1982.

The early years of PPS saw a large increase in the aggregate total margin, which peaked at 6.0 percent in 1985. High profits on Medicare cases contributed to this increase. In subsequent years—as Medicare tightened its control of inpatient payment rate increases—the total margin began to fall, dropping to 3.3 percent by 1988. In the late 1980s, this decline leveled off, with the total margin rising to 4.3 percent in 1991. In 1992, margins appear to have increased again.[24]

Figure 2-6 Aggregate Total Margin, 1976–1991 (In Percent)



SOURCE: American Hospital Association Annual Hospital Survey.

Overall financial performance was far from uniform across hospital groups. In the first year of PPS, the total margin for urban hospitals was 2.5 percentage points higher than for rural hospitals (see Table 2-21). This gap narrowed steadily before disappearing in the fifth year. Since the sixth year, the rural hospital total margin has exceeded that for urban hospitals.

Hospitals in large urban areas have had lower total margins than hospitals in other urban areas. This may reflect the disadvantageous payer mix (a higher share of Medicaid and uninsured patients) for many inner-city hospitals. Rural referral centers consistently have had higher total margins than other rural hospitals. Sole community hospitals had higher margins than hospitals in the other rural category in the first four years of PPS, but this differential has narrowed greatly.

Major teaching hospitals consistently have had lower total margins than other teaching or nonteaching hospitals, perhaps reflecting the overlap between disproportionate share and teaching status. The total margin for disproportionate share hospitals in large urban areas has always been significantly below average. However, the differential narrowed considerably between the seventh and eighth years, probably reflecting increases in both Medicare and Medicaid disproportionate share payments.

Some hospitals' Medicare payments are adjusted for teaching status, disproportionate share status, or both. Among the four combined teaching and disproportionate share groups, the lowest total margin has been found consistently in hospitals receiving both IME and DSH payments. In previous years, teaching hospitals that did not get DSH payments had the highest total margins. However, in the eighth year of PPS, disproportionate share hospitals that did not receive IME payments had the highest margins. This improvement also may be due to the sharp increase in Medicaid disproportionate share payments.

Finally, in both urban and rural areas, the smallest hospitals had substantially lower total margins than the other size groups in the eighth year of PPS.

Distribution of Total Margins—As is the case with the PPS margins discussed earlier, total

Table 2-21. Total Hospital Margins, by Hospital Group, Selected PPS Years (In Percent)

Hospital Group	PPS 1	Subsequent PPS Years			
		PPS 5	PPS 6	PPS 7	PPS 8
All hospitals	7.1%	3.5%	3.6%	3.9%	4.5%
Urban	7.5	3.5	3.5	3.8	4.4
Rural	5.0	3.6	4.0	4.6	5.1
Large urban	7.2	2.8	2.7	2.8	3.5
Other urban	7.8	4.4	4.7	5.1	5.4
Rural referral	7.2	5.7	5.9	6.1	6.3
Sole community	4.5	2.4	2.8	3.9	4.7
Other rural	4.0	2.6	3.1	3.7	4.3
Major teaching	4.5	2.6	1.8	1.9	2.9
Other teaching	8.2	3.8	4.0	4.2	4.5
Non-teaching	7.1	3.7	4.0	4.4	4.9
Disproportionate share:					
Large urban	5.9	1.9	1.5	1.4	2.5
Other urban	7.4	4.3	4.8	5.1	5.8
Rural	5.0	3.1	4.1	5.4	7.0
Non-disproportionate share	7.6	4.1	4.2	4.6	4.6
Payment adjustments:					
IME and DSH	5.9	2.8	2.6	2.6	3.6
IME only	9.0	4.4	4.3	4.7	4.7
DSH only	7.4	3.2	3.7	4.3	5.4
No IME or DSH	6.9	4.0	4.1	4.5	4.6
Urban <100 beds	2.7	0.5	0.5	1.5	1.6
Urban 100-199 beds	6.7	1.8	2.4	3.1	3.7
Urban 200-299 beds	7.9	2.8	3.3	3.7	4.3
Urban 300-399 beds	8.1	4.5	4.5	4.7	5.2
Urban 400-499 beds	7.4	3.9	4.3	4.3	4.5
Urban 500+ beds	8.5	5.0	4.1	3.8	4.5
Rural <50 beds	3.0	1.0	1.7	2.4	2.5
Rural 50-99 beds	4.4	2.4	3.4	3.8	4.0
Rural 100-149 beds	5.1	4.0	4.0	4.9	6.4
Rural 150-199 beds	6.1	5.0	5.1	5.4	5.9
Rural 200+ beds	7.3	6.1	5.7	6.3	6.5
Voluntary	7.6	3.7	3.7	3.9	4.3
Proprietary	7.8	3.9	3.3	4.0	5.9
Urban government	4.3	2.5	3.6	3.8	4.5
Rural government	4.7	2.9	3.2	4.1	4.8

Note: Data for each PPS year correspond to each hospital's cost reporting period beginning in that year. For instance, PPS 1 includes data from each hospital's cost report beginning during the first year of PPS (fiscal year 1984). Excludes hospitals in Maryland; includes hospitals in Massachusetts and New York beginning with PPS 3 and New Jersey beginning with PPS 6. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

margins vary widely among individual hospitals within any group. This distribution has become more disbursed over time, although patterns vary across hospital groups. By the eighth year of PPS, 24.5 percent of all hospitals had negative total margins; however, one-quarter of all hospitals had total margins greater than 7.0 percent (see Table 2-22).

Table 2-22. Distribution of Total Hospital Margins, by Hospital Group, Eighth Year of PPS (In Percent)

Hospital Group	Percentile			Percent with Negative Total Margins
	25th	Median	75th	
All hospitals	0.1%	3.5%	7.0%	24.5%
Urban	0.4	3.5	6.8	21.5
Rural	-0.8	3.3	7.3	27.7
Large urban	0.1	2.9	6.1	24.3
Other urban	0.8	4.0	7.5	19.0
Rural referral	3.3	5.7	8.8	8.1
Sole community	-1.2	3.1	7.5	29.8
Other rural	-1.2	2.9	6.9	30.1
Major teaching	0.1	2.6	5.2	18.9
Other teaching	0.9	3.9	6.8	16.9
Non-teaching	-0.4	3.4	7.2	26.2
Disproportionate share:				
Large urban	-0.8	2.4	5.3	27.4
Other urban	1.7	4.8	8.3	13.2
Rural	1.4	5.3	9.9	19.2
Non-disproportionate share	-0.4	3.3	6.8	26.5
Payment adjustments:				
IME and DSH	0.6	3.4	5.9	18.1
IME only	1.1	4.1	6.8	16.2
DSH only	0.8	4.3	8.7	20.5
No IME or DSH	-0.9	3.1	6.8	28.0
Urban <100 beds	-3.3	1.1	4.7	40.0
Urban 100-199 beds	0.5	3.6	6.8	20.2
Urban 200-299 beds	1.1	3.8	7.2	17.9
Urban 300-399 beds	2.4	4.9	8.1	10.2
Urban 400-499 beds	1.9	4.6	7.1	15.9
Urban 500+ beds	1.6	4.5	7.1	8.5
Rural <50 beds	-2.9	1.7	6.0	39.3
Rural 50-99 beds	0.4	3.6	7.2	23.4
Rural 100-149 beds	2.6	6.1	9.4	9.7
Rural 150-199 beds	3.0	5.7	8.4	8.6
Rural 200+ beds	2.8	5.6	9.0	5.0
Voluntary	0.3	3.5	6.7	22.4
Proprietary	-0.6	4.1	9.3	27.5
Urban government	0.4	3.7	7.4	21.8
Rural government	-1.2	3.0	7.1	29.9

Note: Excludes hospitals in Maryland. IME = indirect medical education payments. DSH = disproportionate share payments.

SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

As a group, rural hospitals had a higher total margin than urban hospitals, but more rural hospitals had a negative total margin (27.7 percent compared with 21.5 percent). This reflects the fact that a large number of small rural hospitals have low total margins, but they are offset by the higher total margins of large rural hospitals.

Rural referral centers are unusual in that only 8.1 percent had negative total margins in the

eighth year of PPS, while one-quarter had total margins exceeding 8.8 percent. A number of other rural hospitals also had high total margins, even though they were over three times more likely than rural referral centers to have negative margins.

Another apparent contradiction is the case of major teaching hospitals. Although as a group they had significantly lower total margins than non-teaching hospitals, they were also less likely to have negative margins. Few major teaching hospitals have especially high total margins, but not many have very low margins either. This may reflect the fact that teaching hospitals are more likely to receive public support for their teaching activity and special patient care services (such as uncompensated care).

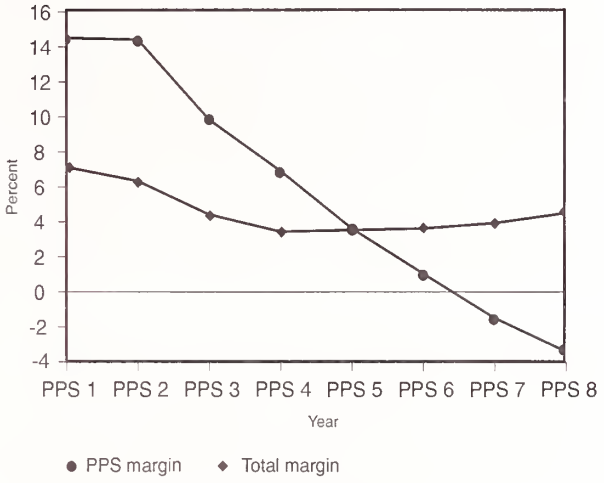
COST SHIFTING

The data presented earlier show that both PPS and total margins vary widely across and within hospital groups. Comparison of the data also indicates that the patterns of PPS and total margins are very different from each other. This section describes some of the differences in hospital charges, payments, and costs by payer, and what impact this has on hospital financial status and the incentive to constrain cost growth. This difference in relative charge and payment levels across payers is frequently referred to as cost shifting.

PPS and Total Margins

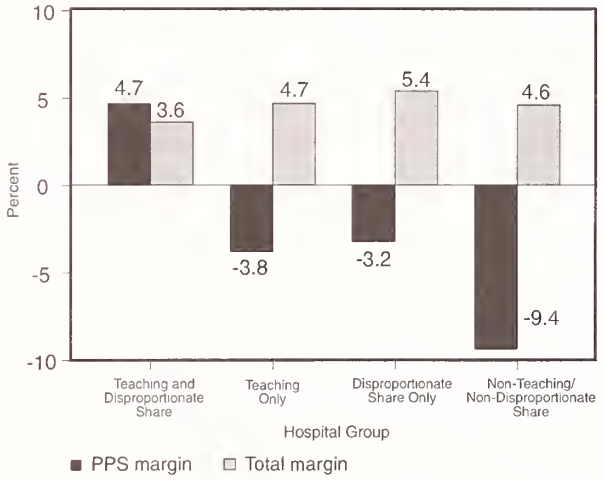
Both PPS and total margins are lower now than they were when PPS began (see Figure 2-7). The decline in PPS margins has been much steeper than the decline in total margins. The PPS margin for all hospitals was considerably higher than the aggregate total margin in the first two years of PPS, but by the fifth year, it was about equal to the total margin. The total margin has improved somewhat since the fifth year of PPS, while the PPS margin has fallen well below zero. By the eighth year of PPS, the total margin was almost eight percentage points higher than the PPS margin, compared with more than seven percentage points lower in the first year. This pattern indicates that, relative to costs, revenue from other payers has been increasing substantially faster than Medicare payments in recent years.

Figure 2-7. PPS and Total Margins, First Eight Years of PPS (In Percent)



SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

Figure 2-8. PPS and Total Margins for Selected Hospital Groups, Eighth Year of PPS (In Percent)



SOURCE: ProPAC analysis of Medicare Cost Report data from the Health Care Financing Administration.

Many types of hospitals have PPS and total margins that differ greatly, and the relation between the two margins varies across groups. This can be seen by comparing hospitals grouped according to whether they receive IME and DSH payments under PPS (see Figure 2-8). In the eighth year of PPS, hospitals that received neither IME nor DSH

payments had a total margin 14.0 percentage points higher than their PPS margin. By contrast, hospitals that received both IME and DSH payments had a much higher PPS margin than hospitals without such adjustments, and their total margin was 1.1 percentage points lower than their PPS margin. This indicates that the hospitals that did not receive PPS payment adjustments covered losses on PPS cases with revenue earned on non-PPS cases, while the hospitals with both IME and DSH adjustments used those payments to offset lower margins from other payers.

Hospital Financial Status and Cost Shifting

The data on PPS and total margins raise the question of how revenues from Medicare, Medicaid, and other payers are related. Hospitals need to generate extra revenue from privately insured patients and other sources to cover uncompensated care costs. They often also need to cover costs that exceed payments for the care provided to Medicare and Medicaid beneficiaries. The existence of a high aggregate total margin in the face of increasing Medicare, Medicaid, and uncompensated care losses indicates that hospitals were able to cover those losses through higher payments received for other cases—that is, to cost shift. However, there was considerable variation across hospital groups (and among hospitals within each group) in the ability to do so.

More information on the issue of cost shifting is provided by examining gains and losses for different groups of hospitals by payer type. In 1991, Medicare, Medicaid, and uncompensated care losses were equal to 11.3 percent of total costs for all PPS hospitals (see Table 2-23). To cover these losses with surplus payments from private insurers (which account for 39.3 percent of total hospital costs), hospitals would have had to receive payments that were 29 percent more than costs. In fact, the payment to cost ratio for private payers was 1.31, indicating that hospitals received, on average, payments that exceeded costs by 31 percent. This, combined with hospitals' non-patient care revenue, produced an aggregate total margin of 4.4 percent.[25]

Different groups of hospitals vary in the Medicare, Medicaid, and uncompensated care losses they incur; the share of their costs attributed to private pay patients; and the extent to which their payments from private insurers exceed costs. The combination of these factors leads to major differences in total margins.

Compared with rural facilities, hospitals in large urban areas had a lower percentage of losses from Medicare but greater Medicaid losses in 1991. The private payer share in large urban hospitals was higher than that in rural hospitals, but payments from private payers were only 26 percent above costs, compared with 38 percent for rural facilities. Consequently, the total margin for hospitals in large urban areas was 3.1 percent, while that for rural hospitals was 5.3 percent.

The contrast between public (government-owned) major teaching hospitals and non-teaching hospitals is particularly striking. Public major teaching hospitals receive substantial adjustments to their Medicare inpatient payments, resulting in relatively small aggregate Medicare losses. Their losses from Medicaid, however, are much greater, reflecting their higher share of Medicaid patients. For the same reason, their share of private pay patients is much smaller than average. Moreover, their payments from private insurers exceed costs by a considerably smaller percentage. As a result, their aggregate total margin is only 1.5 percent, compared to 5.0 percent for non-teaching hospitals.

Cost shifting also differs by hospital ownership category. Proprietary hospitals have very large Medicare losses, equal to 9.5 percent of their total costs. In fact, losses from Medicare, Medicaid, and uncompensated care combined equal 15.7 percent of total costs for this group. However, the share of private pay patients is considerably higher for proprietary hospitals than for hospitals in any other category. Moreover, payments they receive from private insurers are 45 percent higher than costs, resulting in a 5.9 percent aggregate total margin.

Finally, a comparison of hospitals grouped by their total margin yields clear patterns in the mix of losses and gains by payer. Losses from both Medicare and Medicaid were much greater for hospitals in the bottom quartile of the distribution of total margins than for hospitals in the other groups. Uncompensated care losses, on the other hand, were not greater for this group. In addition, payments from private payers accounted for the smallest share

Table 2-23. Total Margins, Losses by Payer, and Private Payer Payment to Cost Ratios in 1991, by Hospital Group

Hospital Group	Aggregate Total Margin	Losses as a Percentage of Total Hospital Costs			Private Payers		
		Medicare	Medicaid	Uncompensated Care	Share of Total Costs	Payment to Cost Ratio	Gains as a Percentage of Total Hospital Costs
All PPS hospitals	4.4%	4.6%	2.0%	4.7%	39.3%	1.31	12.1%
Large urban	3.1	4.1	2.2	4.7	40.1	1.26	10.3
Other urban	5.4	4.8	1.8	4.6	39.7	1.34	13.5
Rural	5.3	5.4	1.6	4.8	35.8	1.38	13.8
Major teaching, public	1.5	0.5	3.4	4.4	27.8	1.17	4.8
Major teaching, non-public	2.6	2.3	2.0	4.9	39.8	1.19	7.8
Other teaching	4.6	4.1	1.8	4.7	40.4	1.29	11.6
Non-teaching	5.0	5.9	1.9	4.6	39.5	1.36	14.3
Disproportionate share:							
Large urban	2.0	3.2	3.0	5.4	35.7	1.26	9.2
Other urban	5.4	3.6	2.2	5.2	37.5	1.35	13.1
Rural	7.2	4.6	1.2	6.5	32.7	1.49	15.9
Non-disproportionate share	4.9	5.6	1.5	4.1	42.0	1.30	12.8
Voluntary	4.2	4.3	1.9	4.7	40.1	1.29	11.6
Proprietary	5.9	9.5	2.2	4.0	44.1	1.45	20.0
Urban government	3.9	2.6	2.6	5.2	31.7	1.30	9.5
Rural government	5.4	4.5	1.4	4.4	33.3	1.35	11.8
Total margin:							
Top quartile	11.1	3.9	1.6	4.4	41.4	1.43	17.7
Second quartile	5.6	4.6	1.8	4.5	40.4	1.33	13.2
Third quartile	2.1	4.1	1.9	5.2	38.6	1.26	9.9
Bottom quartile	-5.0	6.4	2.8	4.6	35.5	1.17	5.9

SOURCE: ProPAC analysis of data from the American Hospital Association.

of revenues in hospitals with the lowest total margins. The payment to cost ratio for private payers was lowest as well, with payments exceeding costs by 17 percent. By contrast, hospitals with the highest total margins received payments that were 43 percent more than costs for private pay patients.

CONCLUSIONS

The information presented in this chapter describes the trend in and distribution of PPS operating payments and costs, focusing on how payment policy and other changes have affected hospital behavior and financial performance. As the payment system matures and as more changes focused on specific groups of hospitals are implemented, it is clear that such policies can substantially influence the payments those hospitals receive. Among the policies implemented in the past few years are the differential update in the rural hospital payment rate, the expansion of eligibility for and increase in the level of DSH payments, the special provisions for sole community hospitals, and geographic reclassification.

These policies have all affected the distribution of Medicare payments and the effectiveness of the incentives for efficiency that were built into the system design. In some cases, policy changes were intended to correct perceived payment inequities resulting from early PPS design decisions. In others, they were intended to provide a payment cushion for hospitals that deliver socially valued services or to maintain access to care for Medicare beneficiaries and other populations.

In the tenth year of prospective payment, it still is difficult to tell whether the policy changes

initiated since implementation of PPS have had the intended effects. Medicare operating costs grew at a somewhat slower rate in the seventh and eighth years of PPS than in the previous several years, coinciding with the first year in which PPS operating margins were negative. As PPS margins go toward or below –10 percent, hospitals may feel more pressure to constrain costs.

Decreasing PPS margins also make the distribution of Medicare payments all the more important, since the gap between hospitals that do well under PPS and those that do not is widening. The question of how different hospitals respond to PPS and other factors in their environment continues to be the subject of some debate.

As PPS margins fall, however, total margins are stable, and even slightly higher than they previously have been. Hospitals have been able to generate enough revenues to cover their expenses by raising their charges to private payers. How long this cost shifting can continue—and its ramifications for the insurance industry, hospitals, government, and individuals—is a question that has caused increasing concern in both the public and private sectors.

Notes to Chapter 2

1. The wage index is applied to the labor-related portion (about 70 percent) of the standardized payment amount. For hospitals in Alaska and Hawaii, a cost-of-living adjustment is applied to the non-labor-related portion (about 30 percent) of the standardized amount.

2. The Omnibus Budget Reconciliation Act of 1990 mandated that the difference between the other urban and rural standardized amounts be eliminated by fiscal year 1995.

3. These figures are based on unpublished estimates received from the Congressional Budget Office in March 1993.

4. ProPAC's estimate of the aggregate outlier payment proportion (outlier payments divided by [outlier payments plus basic DRG payments] for fiscal year 1993) is 4.8 percent, somewhat less than the 5.1 percent average reduction in the standardized payment amounts.

5. The proportion of outlier payments for hospitals in the Middle Atlantic region will be somewhat lower in fiscal year 1993 than it was in fiscal year 1992, because of changes in the PPS outlier payment policy that were implemented on October 1, 1992.

6. In implementing PPS, a four-year transition period was used to move gradually from payment rates based on hospital-specific costs to rates based on national average costs. To isolate the effects of policy changes from those related to the transition, the estimates presented here reflect only the impact on the national payment rates. Moreover, the policies in effect at the end of each fiscal year (including any adopted during the year) are treated as if they applied for the entire year. Although this approach does not measure differences in actual payments from year to year, it more accurately indicates the ultimate impact of PPS policy changes.

7. In this and all other tables in this chapter, hospitals are considered urban or rural on the basis of their geographic location, rather than their payment status. Hospitals that have been reclassified for payment purposes by the MGCRB are still counted as rural hospitals, and any increase in payments resulting from such reclassification is considered an increase in payments to rural hospitals.

8. The data on CMI change shown in Table 2-4 are adjusted to compensate for a 1.22 percent across-the-board reduction in the DRG relative weights for fiscal year 1990. The actual CMI for all hospitals in fiscal year 1990 was 1.0 percent higher than in fiscal year 1989, but the adjusted percentage change of 2.2 percent more accurately reflects the change in the mix of patients discharged.

9. The Medicare Cost Report data presented in this report differ from data in previous reports owing to a revision in the method ProPAC used to compute Medicare operating costs. This revision corrects a previous inconsistency in the treatment of pass-through costs. Differences may also reflect the availability of more current information and minor changes in editing procedures.

10. In all tables in this chapter, hospital groups are defined by hospitals' current (fiscal year 1993) characteristics. For example, the rural disproportionate share hospital category includes all hospitals that are located in rural areas and are currently qualified for DSH payments. Thus, even though there were no rural disproportionate share hospitals in fiscal year 1985, statistics are computed using 1985 data for all rural hospitals that now receive DSH payments and are reported under the rural DSH category for 1985. This approach was adopted to avoid the difficulty in interpretation that would result from having different hospitals in a given group from year to year in the tables.

11. Prospective Payment Assessment Commission, *Medicare and the American Health Care System, Report to the Congress*, June 1992 (Washington, DC: ProPAC, 1992).

12. The current ratio is defined as current assets divided by current liabilities. It is a measure of the short-run viability of the hospital.

13. Relative length of stay is the ratio of the hospital's average length of stay to the average length of stay that would be expected (based on the national average for each DRG) for its mix of Medicare cases.

14. These redesignated counties are not to be confused with the hospitals reclassified by the MGCRB. The redesignation was based on commuting patterns to more than one adjacent MSA, and applied to only 30 counties and 55 hospitals, beginning in fiscal year 1988.

15. ProPAC measures skill mix by an index reflecting 28 hospital employment categories, using average salary levels (estimated primarily from Bureau of Labor Statistics' survey data) to represent relative skill levels.

16. See, for example, Linda A. Aiken and Jack Hadley, "Factors Affecting the Hospital Employment of Registered Nurses," in Secretary's Commission on Nursing, *Final Report: Support Studies and Background Information, Vol. II* (Washington, DC: Department of Health and Human Services, December 1988).

17. These data are from the American Hospital Association National Hospital Panel Survey.

18. "Health Care Bonds," *Bond Buyer*, Quarterly Statistical Supplement, February 1, 1992, 8A.

19. "Munis Still Weak in 1992, But Some Areas Improved," *Standard & Poor's Creditweek*, February 1, 1993, 23.

20. The aggregate productivity measure presented here differs from that used in previous reports. The current measure reflects the productivity of capital as well as labor and supplies and services. The earlier measure reflected only labor inputs and supplies and services.

21. For further discussion of the Commission's productivity measures and their limitations, as well as the data sources for the analysis, see ProPAC's March 1993 *Report and Recommendations to the Congress.*

22. Real expenses and revenues in each year are dollar values adjusted by the Department of Commerce's gross domestic product implicit price deflator, which reflects the general level of prices for goods and services produced in the domestic economy during the year. Adjusted admissions are an indicator of the overall (inpatient and outpatient) workload of each hospital, expressed in units equivalent to inpatient admissions.

23. The 1992 data are from the American Hospital Association's National Hospital Panel Survey, while the data in Figure 2-5 are from its Annual Survey.

24. As elsewhere in this chapter, the 1992 data are from the American Hospital Association's National Hospital Panel Survey.

25. Hospitals also receive payments for patients covered by government programs other than Medicare and Medicaid, but these are a relatively small portion of total hospital revenues.

Chapter 3

Hospital and Other Patient Care Services

Chapter 3

Hospital and Other Patient Care Services

The use of hospital and other patient care services has changed dramatically since the enactment of Medicare in 1965. This change is driven by a number of factors, including growth in the elderly population, advances in medical technology, and the availability of coverage for a wider variety of health care services.

Inpatient admissions climbed steadily between 1967 and 1979, particularly for those aged 65 and older. The resulting increases in spending for hospital care during that time stimulated interest in alternative modes of health care delivery and cost containment initiatives.

Inpatient admission rates declined during the 1980s, while utilization of post-acute and ambulatory services rose. The health care system has experienced substantial growth in the numbers and types of providers offering alternatives to inpatient hospital care. In addition, the organization and financing of care have undergone marked change. The most visible sign of this evolution is the prevalence of managed care systems. Health maintenance organizations (HMOs), which first gained popularity in the western United States, have experienced expanding enrollment throughout the country.

This chapter examines the utilization and capacity of the health care system. First, national and regional data on inpatient services are presented. Trends in acute care hospitalizations and capacity are described, followed by a discussion of changes in medical technologies that have affected the range of available services. Next, data on specialty facilities—psychiatric hospitals and distinct-part units, children's hospitals, and cancer hospitals—are presented.

The third section reports utilization and capacity information on post-acute care services. These include skilled nursing facility (SNF) services provided in nursing facilities and hospital swing beds, home health care services, services furnished in rehabilitation facilities and long-term hospitals, and hospice services.

The fourth section examines the growth in ambulatory service use and capacity. The discussion focuses on the most commonly performed outpatient procedures and describes the types of ambulatory service providers. Reasons for the growth in selected Medicare outpatient procedures are also discussed.

Finally, information on alternative systems of care—namely managed care programs—is presented. First, the range of managed care delivery systems is described, along with how these systems have changed over time. Managed care options available within the Medicare program are then discussed.

ACUTE CARE HOSPITAL INPATIENT SERVICES

Advances in technology, changes in practice patterns, and the implementation in 1984 of Medicare's prospective payment system (PPS) have had a major impact on hospital operations. In the last decade, per capita inpatient utilization has decreased and average length of stay has declined. Hospitals have responded to these changes by downsizing and reorganizing services, and in some instances closing their facilities. This section provides more detailed information on the trends in hospital utilization and supply.

Utilization

The use of hospital inpatient services has declined markedly over the past 10 years. In 1992, there were about 32.4 million inpatient

Table 3-1. Change in Admissions to Community Hospitals, 1982-1992 (In Percent)

Year	All Admissions	Admissions by Age	
		Under 65	65 and Over
1982	0.0%	-1.6%	4.1%
1983	-0.5	-2.8	4.7
1984	-3.7	-4.2	-2.6
1985	-4.9	-4.7	-5.2
1986	-2.1	-2.5	-1.0
1987	-0.6	-1.0	0.4
1988	-0.4	-1.6	2.0
1989	-1.0	-2.0	1.2
1990	-0.5	-1.6	1.7
1991	-1.1	-2.9	2.5
1992	-0.8	-2.2	1.7
Cumulative change:			
1982-1992	-14.5	-22.8	5.2

SOURCE: American Hospital Association National Hospital Panel Survey.

admissions to community hospitals, almost 5.5 million fewer than in 1982. The decline in volume occurred despite a 10.2 percent increase in the U.S. population. Changes in inpatient admissions, however, have varied among age groups and among hospitals, depending on their location and size.

Inpatient admissions of people 65 or older rose annually before the implementation of PPS. Between 1983 and 1986, admissions declined by almost 9 percent (see Table 3-1). But since 1986, inpatient admissions for the elderly have increased an average of 1.6 percent per year, still below the population growth rate for this age group. By contrast, the decline in inpatient admissions of people under 65, which began in 1982, continues. Nonelderly admissions dropped by almost 23 percent between 1982 and 1992.

Per capita admission rates tell an even more striking story. For the 65 and over population, these reached 431 per 1,000 persons in 1983. From 1984 through 1987, admission rates for the elderly dropped by almost 16 percent, and then rose slightly (0.8 percent) between 1988 and 1992. In 1992, there were 367 inpatient admissions per 1,000 persons over 65, representing a 12.6 percent decline since 1982. Elderly inpatient admission rates in New England, Mountain, and Pacific states have tended to be lower than in other areas of the country, whereas they have been consistently higher in the East South Central, West North Central, and West South Central regions since 1981.

For people under 65, per capita inpatient admissions have fallen steadily over the last decade. Inpatient admissions to community hospitals dropped by 29 percent, from 130 per 1,000 persons in 1982 to 92 in 1992. On average, nonelderly inpatient admission rates tend to be highest in East South Central states (110 per 1,000 persons in 1992) and lowest in the Pacific region (75 per 1,000 persons in 1992).

Overall length of stay for all admissions slowly declined prior to 1983, then dropped sharply (6.7 percent) in the two years following the introduction of PPS (see Table 3-2). The change in average length of stay for people over 65 was even more pronounced—a 9.5 percent reduction between 1983 and 1985. Since that time, however, average length of stay has shown modest changes. The average hospital stay for an elderly patient in 1992 was about 8.3 days, one-half day shorter than in 1985. For all patients (excluding newborns), length of stay fell by 0.2 days over the same period.

Length of stay at community hospitals varies by region. On average, stays in Pacific and Mountain states are 1 and 1.3 days shorter, respectively, than the national average. By contrast, patients hospitalized in the Middle Atlantic region stay about 1.4 days longer than the average. Whereas hospital stays in New England are also above the national

Table 3-2. Average Length of Stay, by Age, 1982-1992

Year	Length of Stay (Days)		Percent Change	
	All Admissions*	65 and Over	All Admissions*	65 and Over
1982	7.16	10.12	-0.7%	-2.3%
1983	7.02	9.68	-2.0	-4.4
1984	6.66	8.95	-5.1	-7.5
1985	6.55	8.76	-1.7	-2.1
1986	6.59	8.79	0.6	0.4
1987	6.64	8.88	0.8	1.0
1988	6.64	8.82	0.0	-0.7
1989	6.64	8.84	0.0	0.2
1990	6.57	8.71	-1.1	-1.5
1991	6.47	8.53	-1.5	-2.1
1992	6.37	8.34	-1.5	-2.2

* Excluding newborns.

SOURCE: American Hospital Association National Hospital Panel Survey.

average, the differential is declining. The average length of stay for this region fell from 7.4 days in 1988 to 6.7 days in 1992, a 9.5 percent decline.

Trends in length of stay and inpatient volume reflect changes in a number of factors. Modifications to Medicare and private insurance payment policies, along with utilization review, created direct incentives for hospitals and physicians to cut back inpatient stays. Advances in medical technology that enhanced the breadth and effectiveness of patient care services also fostered shorter stays. In addition, technological advancements have fueled the increase in the number of outpatient procedures performed, curtailing or even eliminating inpatient admissions.

Substituting outpatient services for an inpatient stay generally increases the average length of the remaining hospital stays. Patients who receive alternative outpatient procedures are usually those who would have had relatively short inpatient stays. The remaining inpatient cases are those with longer lengths of stay. Furthermore, patients hospitalized for procedures that are typically performed in the outpatient setting tend to be sicker and therefore have longer lengths of stay. The relatively stable average length of stay seen recently may indicate that unnecessary days have been eliminated or that opportunities for substituting outpatient services or other alternatives to inpatient care have been realized.

Changes in inpatient admissions and length of stay differ across groups of hospitals. Admissions began to drop earlier and were more pronounced for rural community hospitals than for urban hospitals (see Table 3-3). Between 1982 and 1992, admissions to rural hospitals fell by 2.8 million, or 33.7 percent. This compares with the urban hospital experience, where admissions declined by 2.5 million, or 9.1 percent. Inpatient admissions to urban hospitals increased slightly in 1990 and 1991, while admissions continued to fall in rural hospitals.

In the 1980s, per capita admissions to rural hospitals fell sharply from 140 per 1,000 persons in 1983 to 107 in 1987, a 23.6 percent decline. Between 1987 and 1990, rural admission rates decreased a modest 4.7 percent. During the same period, per capita admissions to urban hospitals showed a relatively steady decline. Admissions per 1,000 persons fell by 16.8 percent from 1983 to 1990, an average annual decrease of 2.6 percent. On average, per capita admissions for rural and urban hospitals were highest in the East South Central states and lowest in the Pacific region. The West North Central and West South Central regions had the largest decline in rural and urban per capita admissions between 1983 and 1990.

Table 3-3. Change in Total Admissions to Urban and Rural Community Hospitals, 1981-1991 (In Percent)

Year	Community Hospitals		
	All	Urban	Rural
1981	0.8%	3.5%	-7.4%
1982	-0.2	0.1	-0.9
1983	-0.6	0.7	-5.2
1984	-2.8	-2.0	-5.3
1985	-4.9	-3.9	-8.4
1986	-3.2	-2.3	-6.8
1987	-2.4	-1.6	-5.7
1988	-0.5	-0.1	-2.0
1989	-1.1	-0.7	-2.7
1990	0.2	0.4	-0.5
1991	-0.4	0.1	-2.4
Cumulative change:			
1981-1991	-14.7	-9.1	-33.7

SOURCE: American Hospital Association, *Hospital Statistics*, 1992-93.

Smaller hospitals had a greater than average drop in inpatient volume; admissions to hospitals with fewer than 100 beds fell by 30 percent between 1982 and 1991. Small hospitals in the East North Central states had the lowest decline (20 percent) while for those in the West South Central states the decline was most extreme (almost 41 percent). By contrast, admissions to hospitals with 100 or more beds dropped by only 12 percent between 1982 and 1991. Hospitals in the West North Central region had the largest decline (23 percent) in contrast to the Pacific region hospitals, which actually had a 0.4 percent increase in inpatient volume.

Declining inpatient admissions during the last decade brought about similar changes in hospital occupancy. The occupancy rate for community hospitals fell from a high of 76 percent in 1981 to 63 percent in 1986. There have been only modest changes since, and occupancy was about 62 percent in 1992. However, smaller hospitals have a lower

occupancy rate and have experienced greater declines in occupancy. Likewise, rural hospitals tended to have a lower occupancy rate and larger declines than urban hospitals.

Supply

In light of declining inpatient admissions since the mid-1980s, modest changes in the overall occupancy rate can be explained by a more dramatic decrease in the number of licensed hospital beds. Total community hospital beds peaked at more than 1 million in 1983 and fell steadily in subsequent years. There were about 908,000 beds in 1992, representing a 9.6 percent decrease since 1983. Hospitals in the East North Central states lost the most beds (19 percent) compared with Mountain region hospitals, which had about a 2 percent increase. On average, smaller hospitals and rural hospitals had a greater percentage decrease in beds.

Bed reductions came about through hospital closure and downsizing. Many hospitals closed, merged, were acquired by other facilities, or were converted to non-acute care facilities. The number of acute care community hospitals began to drop in the 1970s, but sizable reductions did not occur until the mid-1980s. The total number of community hospitals fell by 8.1 percent, from 5,813 in 1981 to 5,342 in 1991 (see Table 3-4).

The decline in the number of community hospitals varied by hospital ownership, size, and location. The largest decrease was seen in the number of state and local government-owned hospitals, which fell by 18.1 percent between 1981 and 1991. The largest group of community hospitals—nongovernment, nonprofit hospitals—decreased by 4.9 percent during the same time. The number of investor-owned (for-profit) hospitals began to decline after 1986, but was higher in 1991 than in 1981.

On average, the number of small hospitals decreased more rapidly than the number of larger ones. Between 1981 and 1991, hospitals with fewer than 100 beds dropped by over 10 percent, compared with hospitals having 100 or more beds, which fell by 6 percent. However, substantial reductions were observed in the number of extremely large facilities. The number of hospitals with 400 to 499 beds dropped by 16.5 percent, while those with 500 or more beds fell by almost 15 percent. These changes almost certainly reflect reductions in the size of large hospitals, rather than closures.

Table 3-4. Distribution of Community Hospitals, by Location and Bed Size, 1981 and 1991

Location/Bed Size	1981 Number of Hospitals	1981 Percent of Hospitals	1991 Number of Hospitals	1991 Percent of Hospitals	Percent Change 1981-1991
Total	5,813	100.0%	5,342	100.0%	-8.1%
Urban	3,048	52.4	2,921	54.7	-4.2
6-49 beds	254	4.4	210	4.0	-17.3
50-99 beds	467	8.0	440	8.2	-5.8
100-199 beds	785	13.5	791	14.8	0.8
200-299 beds	574	9.9	617	11.5	7.5
300-399 beds	384	6.6	369	6.9	-3.9
400-499 beds	258	4.4	218	4.1	-15.5
500+ beds	326	5.6	276	5.2	-15.3
Rural	2,765	47.6	2,421	45.3	-12.4
6-49 beds	967	16.6	934	17.5	-3.4
50-99 beds	982	17.0	804	15.1	-18.1
100-199 beds	617	10.6	520	9.7	-15.7
200-299 beds	143	2.5	124	2.3	-13.3
300-399 beds	43	0.7	29	0.5	-32.6
400+ beds	13	0.2	10	0.2	-23.1

SOURCE: American Hospital Association, *Hospital Statistics*, 1992-93.

The decline in the number of community hospitals varied by region: the Pacific states experienced the greatest loss (11.6 percent) and South Atlantic states, the smallest (2.7 percent). However, the more remarkable difference is between urban and rural hospitals (see Table 3-4). The number of rural hospitals fell by 12.4 percent (from a total of 2,765 in 1981 to 2,421 in 1991) compared with a 4.2 percent decrease in urban hospitals. The number of urban hospitals with fewer than 50 beds and those with at least 400 beds dropped more than 15 percent, whereas the number of medium-sized urban hospitals actually increased. By contrast, rural hospitals of all sizes experienced a decline in numbers, although this was less for smaller hospitals (fewer than 50 beds).

Declining inpatient volume and low occupancy may play a major role in hospital financial viability. Ultimately, both access to and quality of care may be jeopardized if hospitals' financial conditions deteriorate. However, given the excess number of hospital beds in some areas, a hospital closure may result in increased systemwide efficiency. Despite the continuing trend of falling inpatient volume, total hospital margins have remained strong since the mid-1970s, actually increasing slightly during the past five years. (See Chapter 2 for more information.)

Additionally, the declines in inpatient volume that small urban and rural hospitals have experienced may partly reflect a shift in the site of care from these institutions to larger urban hospitals. This may partially contribute to increased national expenditures on inpatient care, because larger hospitals tend to have higher per unit costs.

Emerging Medical Technologies

Since the beginning of PPS, the Prospective Payment Assessment Commission (ProPAC) has examined the impact of prospective payment on the diffusion of new technologies and estimated the increase in PPS payments necessary to appropriately fund new technologies. In 1991, hospitals continued to expand the availability of new technologies with large operating and capital costs. More available than ever before were cardiac catheterization, computerized axial tomography scanning, extracorporeal shock wave lithotripsy, magnetic resonance imaging, and single photon emission computerized tomography scanning. In addition, more hospitals had the capacity to perform open-heart surgery and organ transplants (see Table 3-5).

When PPS was implemented in 1984, there was some concern that financial incentives would slow the adoption of emerging technologies. This does not appear to have occurred, however. Diffusion has continued despite the rising costs to acquire and operate the new technologies. The rate of growth in the percentage of hospitals offering high-technology services has been relatively stable since 1980, although groups of hospitals offering these

Table 3-5. Selected Services Provided by Hospitals, 1981-1991 (In Percent)

Year	Cardiac Catheterization	CT Scan	Lithotripsy (ESWL)	MRI	Megavolt Radiation Therapy	Open-Heart Surgery	Organ/Tissue Transplant	SPECT
1981	14.8%	21.4%	--	--	14.5%	9.6%	--	--
1982	15.5	27.3	--	--	14.8	10.2	3.5%	--
1983	15.8	34.2	--	--	14.7	10.5	3.8	--
1984	16.3	41.9	--	--	15.0	10.8	4.0	--
1985	16.8	48.5	--	--	15.2	11.1	4.2	--
1986	18.6	52.9	2.8%	8.2%	15.5	12.0	4.8	--
1987	19.6	52.5	3.2	8.0	15.4	12.6	5.1	--
1988	20.9	55.6	4.2	10.6	16.0	13.3	6.5	--
1989	21.9	58.2	5.3	12.8	16.6	13.8	8.2	--
1990	24.1	61.1	5.4	15.6	17.0	14.7	9.1	16.2%
1991	25.4	63.2	6.2	17.8	16.7	15.2	9.7	20.2

Note: CT=computerized axial tomography, ESWL=extracorporeal shock wave lithotripsy, MRI=magnetic resonance imaging, SPECT=single photon emission computerized tomography. Includes all Federal, non-Federal, general acute care, long-term care, and psychiatric hospitals and hospital units of institutions.

SOURCE: American Hospital Association, *Hospital Statistics*, 1981 through 1992-93.

services vary. A greater percentage of hospitals in the Pacific, East North Central, and Middle Atlantic regions offer newer technologies than do hospitals located in other areas of the country. Similarly, larger hospitals are more likely than smaller ones to offer these services.

SPECIALTY HOSPITALS

In addition to treatment delivered in general acute care hospitals, Medicare beneficiaries can also receive inpatient care in specialty hospitals: psychiatric hospitals and distinct-part units, children's hospitals, and cancer hospitals. These hospitals are excluded from Medicare's prospective payment system because their patient populations and treatment patterns differ from those of PPS hospitals. Payments for these facilities follow the policy set by the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982, which changed their basis of reimbursement from actual costs to an annual target rate of increase. These providers are paid on the basis of each facility's historical costs, trended forward with a limit (target) placed on the rate of increase in per-case reimbursable costs.

Psychiatric Hospitals and Distinct-Part Units

Psychiatric facilities treat patients with mental disorders, including organic and affective disorders, schizophrenia, other psychoses, and alcohol- and drug-related problems. In March 1993, there were almost 2,000 Medicare-certified psychiatric facilities, of which 36 percent were psychiatric hospitals and the rest distinct-part units of general acute hospitals (see Table 3-6). This represents a 37 percent increase since 1986, when there were only 1,429 Medicare-certified psychiatric facilities.

Psychiatric facilities are not equally distributed across the United States. In 1993, 5.8 percent of hospitals and 8.1 percent of distinct-part units were located in New England. By contrast, 14.5 percent of hospitals and 16.3 percent of distinct-part units were located in the East North Central region.

Medicare patients treated in psychiatric facilities in fiscal year 1990 totaled almost 298,000, a 90 percent increase over fiscal year 1985. Medicare payments to these facilities—an indirect measure of utilization—grew by about 150 percent over the same period, to $1.5 billion.

Children's Hospitals

Most of the Medicare beneficiaries admitted to PPS-excluded children's hospitals have end-stage renal disease (ESRD). Children's hospitals predominantly serve patients under 18 years old. However, patients of other ages can be treated as well. Older patients may be admitted for specialized services such as burn care or cardiac care; those with conditions like cystic fibrosis may continue to receive care from a children's hospital as an adult.

In March 1993, there were 68 Medicare-certified children's hospitals. This is a 21 percent increase in the number of facilities since 1986, when only 56 of these institutions existed. They are not evenly distributed across the United States. Many states have no certified hospitals, while Ohio has eight, California and Texas have six each, and Pennsylvania has five.

Between fiscal years 1985 and 1990, Medicare discharges from these facilities grew about 65 percent to almost 3,000. Over the same period, total Medicare payments for these services grew by 83 percent to $22.7 million.

Cancer Hospitals

Hospitals involved extensively in cancer research and treatment are also excluded from PPS. To qualify for excluded status, a hospital must have

Table 3-6. Growth in the Number of Medicare-Certified Psychiatric Facilities, 1986-1993

	Psychiatric Hospitals		Psychiatric Distinct-Part Units	
Year	Number	Percent Change	Number	Percent Change
1986	516	--	913	--
1987	585	13.4%	958	4.9%
1988	615	5.1	1,041	8.7
1989	660	7.3	1,070	2.8
1990	687	4.1	1,130	5.6
1991	709	3.2	1,156	2.3
1992	710	0.0	1,253	8.4
1993	719	1.3	1,278	2.0

SOURCE: Health Care Financing Administration, Office of Survey and Certification.

been recognized by the National Cancer Institute (NCI) as a comprehensive cancer center or clinical cancer research center as of April 20, 1983. The hospital must demonstrate that it is organized primarily for cancer research and treatment, and that at least 80 percent of its total discharges are in diagnosis-related groups (DRGs) with cancer as the principal diagnosis. Medicare does not pay for research costs or experimental items or treatments. Nor does it reimburse for costs associated with activities sponsored by other government entities (such as NCI clinical trials). However, the Medicare program does cover the costs of providing usual medical care to cancer patients.

Cancer hospitals are excluded from PPS because they specialize in treating relatively costly cancer patients. This prevents them from offsetting the costs of more expensive cases within a DRG with lower-cost cases. Nor can they use revenue from some DRGs to offset losses in others. Designated cancer subunits within PPS hospitals are not exempt from PPS because the hospital can offset higher costs within the cancer subunit with revenues from its other clinical services.

Throughout the mid-1980s, there were only eight excluded cancer hospitals. One hospital has been added since then, although no more can be added without a change in legislation. During this period, these hospitals treated fewer than 15,000 Medicare patients each year, representing about 27 percent of their total discharges.

POST-ACUTE CARE SERVICES

Post-acute care services are generally furnished after a hospital inpatient stay to beneficiaries no longer requiring hospital care. Services may be either rehabilitative or palliative in nature. Some of the care furnished in post-acute settings may substitute for services that might otherwise be provided in the hospital, thereby enabling a patient to be discharged earlier. Alternatively, some post-acute care services may supplement hospital care. In a future study, ProPAC will explore the range of services used across settings for an episode of care.

Skilled Nursing Facilities

Medicare's skilled nursing facility benefit is limited to extended care services furnished in a nursing facility. Nursing facilities can be either free-standing or distinct-part units of acute care hospitals. Medicare will pay for SNF care only if beneficiaries have completed a hospital stay of at least three days and need ongoing skilled nursing or skilled rehabilitation services that must be performed or supervised by a professional. For those who meet coverage requirements, Medicare pays for all covered services during the first 20 days and covers up to 100 days per spell of illness. The beneficiary is responsible for coinsurance payments for the twenty-first through hundredth days. This coinsurance amount, which was $81.50 per day in 1992, is one-eighth of the annual hospital deductible.

Policy changes in the last five years have led to great variation in the utilization of and aggregate payments for Medicare SNF services. The Medicare Catastrophic Coverage Act (MCCA) of 1988 changed several statutory provisions that had restricted use of the benefit. For example, it eliminated the prior hospital stay requirement. In addition, as a result of a class action suit, the Health Care Financing Administration (HCFA) in April 1988 clarified coverage guidelines that had discouraged many beneficiaries from applying for the benefit. In combination, these two changes led to substantial increases in utilization in 1989.[1] After repeal of the MCCA, utilization and payments dropped in 1990. However, because of the continued effects of clarification of coverage guidelines and an increased number of SNF beds, expenditures and utilization did not decline to pre-MCCA levels.

Expenditures for Medicare SNF services increased more than 50 percent between 1987 and 1988, to about $1 billion, and then soared to almost $3.5 billion by 1989. Following repeal of the MCCA, expenditures fell by almost 30 percent before rising to an estimated $4.5 billion in 1992. Medicare-covered SNF days show a similar pattern, jumping briefly in 1988 and 1989, declining in 1990 and 1991, and then increasing in 1992 (see Table 3-7). The number of patients served also increased markedly in 1988 and 1989, remained stable in 1990, and rose again in 1991 (see Table 3-8). It is noteworthy that most of the increase seen in Medicare use was associated with changes in payer, rather than a greater number of actual new nursing facility patients. That is, patients who were formerly paid for through

Table 3-7. Medicare Skilled Nursing Facility Utilization, 1980-1992

Year	Number of Covered Days (In Thousands)	Percent Change
1980	8,645	--
1981	8,518	-1.5%
1982	8,814	3.5
1983	9,314	5.7
1984	9,640	3.5
1985	8,927	-7.4
1986	8,160	-8.6
1987	7,445	-8.8
1988	11,033	48.2
1989	30,053	172.4
1990	25,935	-13.7
1991	25,075	-3.3
1992	30,205	20.5

SOURCE: Health Care Financing Administration, Office of the Actuary.

Medicaid or private payments are now covered under the Medicare benefit.

Regulations published under the Omnibus Budget Reconciliation Act (OBRA) of 1987, which took effect in 1990, required all Medicare and Medicaid facilities to be certified at one level of care (roughly analogous to the SNF level of care). This appears to have contributed to the increase in the supply of nursing facility beds available to Medicare beneficiaries. The number of nursing facilities certified to care for Medicare beneficiaries rose from about 7,600 in 1988 to more than 9,700 in 1991. Within these facilities, the proportion of Medicare-certified beds grew from about 29 percent in 1988 to 33 percent in 1991 (see Table 3-9).

The number of Medicare-certified nursing facilities varies widely by state, ranging from seven in Alaska to 1,187 in California (see Table 3-10). Many factors affect the supply of nursing facilities, including state certification requirements, certificate of need regulations (CON), and the state Medicaid payment method and rate.[2] (See Chapter 5 for more information.)

Swing Beds in Hospitals

Medicare's swing-bed program, enacted under OBRA 1980, was designed to address the shortage of nursing home beds in rural areas and the low occupancy rates in many rural hospitals. The original program guidelines allowed rural hospitals with fewer than 50 beds to participate. In 1987, the program was expanded to allow hospitals with up to 100 beds to enroll. Swing-bed hospitals may use their beds for either acute care or post-acute care. To be certified as a swing-bed provider, a hospital must be located in a rural area. In addition, it must comply with any existing CON requirements in its state and with the Medicare nursing facility conditions of participation. Per diem payments for swing-bed care are the same as the statewide Medicaid nursing facility payment rate for the prior year. Ancillary services are paid on a retrospective cost basis.

Swing-bed services are subject to the same coverage rules as SNF services. Beneficiaries using swing-bed services must meet the three-day prior hospital stay requirement, need skilled nursing or rehabilitation, and pay the same coinsurance and deductibles that apply to SNF coverage.

Table 3-8. Beneficiary Use of Medicare Skilled Nursing Facility Services, 1980-1991

Year	Number of Beneficiaries Served (In Thousands)	Percent Change	Days Per Beneficiary Served	Percent Change
1980	257	--	33.6	--
1981	251	-2.3%	33.9	0.9%
1982	252	0.4	35.0	3.2
1983	265	5.2	35.2	0.6
1984	299	12.8	32.3	-8.2
1985	314	5.0	28.5	-11.8
1986	304	-3.2	26.8	-6.0
1987	293	-3.6	25.4	-5.2
1988	384	31.1	28.7	13.0
1989	636	65.6	47.3	64.8
1990	638	0.3	40.7	-14.0
1991	765	19.9	32.8	-19.4

SOURCE: Health Care Financing Administration, Office of the Actuary.

Table 3-9. Trends in Medicare-Certified Nursing Facilities and Beds, 1988-1991

Year	Number of Medicare-Certified Facilities	Percent of Total Certified Facilities[a]	Number of Medicare-Only Certified Beds	Number of Medicare/Medicaid Dually Certified Beds	Number of Total Beds Available for Medicare[b]	Medicare as Percent of Total Beds in Certified Facilities
1988	7,598	50.5%	22,336	440,071	462,407	29.2%
1989	8,285	53.7	26,307	468,930	495,237	30.2
1990	8,846	56.5	28,124	481,376	509,500	30.7
1991	9,711	61.2	39,848	530,374	570,222	33.4

[a] Total certified facilities is all facilities certified by Medicare or Medicaid.

[b] Total beds available for Medicare is the sum of Medicare-only and Medicare/Medicaid dually certified beds.

SOURCE: ProPAC analysis of Provider of Service File data from the Health Care Financing Administration.

In 1991, a total of 1,990 hospitals were eligible to participate in the swing-bed program. Of these, 67 percent actually did so. Smaller hospitals (those with fewer than 50 beds) were most likely to participate.

The West North Central region has the highest proportion of eligible facilities participating in the program. In this region, 85 percent of the eligible hospitals with fewer than 50 beds participate, while 61 percent of those with 50 to 99 beds participate. The Middle Atlantic region has the lowest participation rate overall. Participation of hospitals with fewer than 50 beds is highest in the East North Central, East South Central, and Mountain regions; for hospitals with 50 to 99 beds, participation is higher in the West South Central, West North Central, and East South Central regions.

The occupancy rate of participating hospitals tends to be lower than that of nonparticipating hospitals (see Table 3-11). This may indicate that hospitals join the program to increase their occupancy rate. Hospitals may also become swing-bed facilities to improve their overall financial performance. In fact, the PPS margins of participating hospitals are better than those of nonparticipants, although hospitals with swing beds have lower total margins. In addition, they tend to operate in environments with fewer active physicians, fewer hospitals per county, and more nursing facility beds than nonparticipating hospitals.

Home Health Care Services

Medicare beneficiaries qualify for home health care services if they are homebound; under a physician's care; and need part-time or intermittent skilled nursing care, physical therapy, speech therapy, or occupational therapy on a continuing basis. Program guidelines generally limit part-time and intermittent care to 35 hours a week. There is no prior hospitalization requirement.

Medicare payment for these services is covered under both Part A (hospital) and Part B (supplementary medical) insurance programs. There is no deductible or coinsurance for home health care. However, services must be provided by a Medicare-certified home health agency. Agencies are paid on the basis of allowable costs, subject to a limit.

Use of the home health care benefit has increased dramatically since 1988, when HCFA clarified coverage guidelines and undertook steps to reduce denial rates. Prior to 1988, HCFA encouraged the fiscal intermediaries to interpret the benefit narrowly as a cost containment measure. However, in 1987, a class action suit filed against HCFA charged that the interpretation of part-time and intermittent care was too stringent. As a result, HCFA clarified the coverage guidelines to allow more visits to qualify for Medicare coverage. In addition, fiscal intermediaries are no longer required to contribute to the costs of claims review through savings from disallowing services. Since then, the number of home health visits has increased at least 25 percent annually (see Table 3-12). In 1992, the number of home health visits is expected to be almost four times greater than it was before the changes occurred in 1988. The number of beneficiaries served also has grown steadily since 1988 (see Table 3-13). There were 40 percent more users in 1991 than in 1988, and the number of services used by each person increased more than 90 percent during the same period.

Medicare expenditures for home health services have risen steadily with the higher utilization. In

Table 3-10. Total Medicare-Certified Nursing Facilities, by State, 1993

State	Number of Facilities		Medicare as Percent of Total Certified
	Medicare- or Medicare/Medicaid-Certified	Total Certified Facilities	
U.S. total	11,040	16,272	67.8%
Alabama	210	214	98.1
Alaska	7	15	46.7
Arizona	135	138	97.8
Arkansas	87	258	33.7
California	1,187	1,330	89.2
Colorado	159	206	77.2
Connecticut	225	251	89.6
Delaware	36	44	81.8
District of Columbia	13	18	72.2
Florida	551	603	91.4
Georgia	230	351	65.5
Hawaii	31	42	73.8
Idaho	72	72	100.0
Illinois	446	831	53.7
Indiana	358	595	60.2
Iowa	77	468	16.5
Kansas	116	421	27.6
Kentucky	266	270	98.5
Louisiana	81	336	24.1
Maine	100	147	68.0
Maryland	180	228	78.9
Massachusetts	380	539	70.5
Michigan	342	439	77.9
Minnesota	434	460	94.3
Mississippi	65	165	39.4
Missouri	340	508	66.9
Montana	96	102	94.1
Nebraska	71	232	30.6
Nevada	35	38	92.1
New Hampshire	20	77	26.0
New Jersey	232	315	73.7
New Mexico	55	73	75.3
New York	627	630	99.5
North Carolina	348	352	98.9
North Dakota	84	84	100.0
Ohio	623	983	63.4
Oklahoma	48	422	11.4
Oregon	116	165	70.3
Pennsylvania	641	707	90.7
Rhode Island	98	98	100.0
South Carolina	154	157	98.1
South Dakota	41	114	36.0
Tennessee	186	305	61.0
Texas	562	1,176	47.8
Utah	67	89	75.3
Vermont	26	48	54.2
Virginia	176	281	62.6
Washington	273	286	95.5
West Virginia	69	133	51.9
Wisconsin	234	419	55.8
Wyoming	30	37	81.1

Note: Medicare- or Medicare/Medicaid-certified includes all facilities eligible to provide Medicare SNF services. All certified nursing facilities includes facilities also certified to provide services to Medicaid enrollees.

SOURCE: ProPAC analysis of Provider of Service File data from the Health Care Financing Administration.

Table 3-11. Characteristics of Small Rural Hospitals With and Without Swing Beds, 1991

Participation/Size	Number of Hospitals	Occupancy Rate	Number of Medicare Discharges	Number of Nursing Facility Beds Per 1,000 Population*	Number of Physicians Per 1,000 Population	Number of Community Hospitals in County
With swing beds	1,080	31.8%	465	12	0.73	1.8
1-49 beds	764	30.4	333	13	0.71	1.9
50-99 beds	316	35.4	783	12	0.78	1.5
Without swing beds	598	36.3	737	10	0.85	2.0
1-49 beds	245	31.1	391	11	0.76	2.1
50-99 beds	353	39.8	976	9	0.92	2.0

* Number of nursing facility beds obtained from 1986 National Center for Health Statistics Inventory of Long-Term Care Places.

SOURCE: ProPAC analysis of Area Resource File data, and Medicare Cost Report data from the Health Care Financing Administration.

1992, spending was an estimated $8.2 billion—44 percent higher than 1991 levels. Home health represents a greater proportion of total Medicare dollars, growing from 3.8 percent of Part A expenditures in 1988 to 9.9 percent in 1992.

In 1993, 6,560 home health agencies were Medicare-certified, a growth rate of only 15 percent over 1989 levels (see Table 3-14). The small increase in facilities given the utilization jump indicates that existing agencies are expanding their staffs to meet the need. (ProPAC will examine this issue in its forthcoming study of home health services.)

Medicare-certified home health agencies are not evenly distributed across the United States. In 1993, New England had only 346 agencies while the East North Central region had 1,030, and the West South Central had 1,222. Almost 30 percent of all the Medicare-certified agencies are hospital-based; 44 percent are proprietary, nonprofit or other types of agencies (see Table 3-15). In addition, use and charge levels vary by type of ownership. Only 9 percent of the agencies are Visiting Nurse Associations, but they deliver 19 percent of all Medicare visits and average the lowest charge per visit. Hospital-based agencies and those in the "all other" category provide many of Medicare's home health services.

Table 3-12. Medicare Home Health Care Utilization, 1980-1992

Year	Number of Visits (In Thousands)	Percent Change
1980	16,322	--
1981	22,688	39.0%
1982	30,628	35.0
1983	36,898	20.5
1984	40,422	9.6
1985	39,449	-2.4
1986	38,000	-4.0
1987	35,591	-3.7
1988	37,154	4.4
1989	46,270	24.5
1990	69,431	50.1
1991	99,938	43.9
1992	138,540*	38.6

* Estimated.

SOURCE: Health Care Financing Administration, Office of the Actuary.

Rehabilitation Hospitals and Distinct-Part Units

Rehabilitation facilities provide services to restore patients to their highest level of functioning. These services usually include rehabilitation nursing, physical therapy, and occupational therapy. The facilities can be either free-standing rehabilitation hospitals or distinct-part units of acute care hospitals. Rehabilitation facilities are excluded from PPS and paid under the policy set by TEFRA.

Between January 1986 and March 1993, the number of Medicare-certified rehabilitation hospitals climbed 124 percent, and Medicare-certified distinct-part units grew 64 percent (see Table 3-16). The number of rehabilitation facilities varies by geographic region. In March 1993, there were only 42 certified rehabilitation facilities in New England, compared with 158 in the East North Central region.

Some 177,420 Medicare beneficiaries received care in rehabilitation facilities in 1990, about one-third in rehabilitation hospitals and the rest in distinct-part units. This is a 157 percent increase

Table 3-13. Beneficiary Use of Medicare Home Health Care Services, 1980-1991

Year	Number of Beneficiaries Served (In Thousands)*	Percent Change	Visits Per Beneficiary Served	Percent Change
1980	726	--	22.5	--
1981	948	30.6%	23.9	6.2%
1982	1,154	21.7	26.5	10.9
1983	1,318	14.2	28.0	5.7
1984	1,498	13.7	27.0	-3.6
1985	1,549	3.4	25.5	-5.6
1986	1,571	1.4	24.2	-5.1
1987	1,544	-1.7	23.1	-4.5
1988	1,582	2.5	23.5	1.7
1989	1,685	6.5	27.5	17.0
1990	1,940	15.1	35.8	30.2
1991	2,212	14.0	45.2	26.2

* These numbers are for fee-for-service only and may not include health maintenance organization enrollees.

SOURCE: Health Care Financing Administration, Office of the Actuary, and Office of Research and Demonstrations.

since 1985. Total Medicare payments to these facilities, grew about 250 percent over the period to roughly $1.68 billion.

Long-Term Hospitals

Long-term hospitals are also excluded from PPS. They are defined as any hospital that is not otherwise classified as a psychiatric or rehabilitation hospital and that has an average inpatient stay exceeding 25 days. Most long-term hospitals treat people with chronic or pulmonary conditions. These facilities care for patients who are not acutely ill, but who may not be sufficiently independent of life-sustaining technology to be cared for in a traditional nursing facility.[3]

As of March 1993, there were 102 long-term hospitals. More than one-fourth are located in New England, while the Pacific Northwest has none. In 1990, 17,515 Medicare beneficiaries were treated in long-term hospitals at a cost to Medicare of about $181 million.

Table 3-14. Trends in the Supply of Medicare-Certified Home Health Care Agencies, 1982-1993

Year	Number of Agencies	Percent Change
1982	3,178	--
1983	3,639	14.5%
1984	4,258	17.0
1985	5,457	28.2
1986	5,963	9.3
1987	5,766	-3.3
1988	5,670	-1.7
1989	5,686	0.3
1990	5,793	1.9
1991	5,949	2.7
1992	6,419	7.9
1993	6,560	2.2

SOURCE: Health Care Financing Administration, Office of Survey and Certification.

Hospice Care

The Medicare hospice benefit was introduced in 1984. Terminally ill Medicare beneficiaries whose life expectancy is six months or less are eligible to receive these services. Hospice care provided to dying persons and their families is supportive rather than cure-oriented. Once a beneficiary chooses to receive the hospice benefit, he or she must waive the right to all other Medicare benefits. Coverage is limited to 210 days, although beneficiaries can receive an additional 90-day period of coverage if they are recertified as terminally ill. Hospice benefits include nursing care, various therapies, medical social services, homemaker home health services, physicians' services, short-term inpatient care, and patient counseling.

The number of Medicare-certified hospice providers increased from 108 in 1984 to almost 1,200 in 1992. Medicare expenditures for hospice care rose from about $8 million to $880 million over the same period.

Table 3-15. Medicare Home Health Agency Utilization, Charges, and Payments, by Type of Agency, 1991

Agency Type	Number of Agencies	Percent of Agencies	Number of Services (In Thousands)	Percent of All Visits	Visits Per Person	Charges Per Visit	Percent of Medicare Payments
All agencies	6,560	100%	99,825	100%	45	$74	100%
Visiting nurse association	595	9	18,898	19	38	71	20
Combined government and voluntary	47	1	393	1	30	76	1
Official health agency	1,194	18	13,142	13	46	68	12
Hospital-based	1,835	28	22,805	23	35	80	26
All other*	2,889	44	44,586	45	56	74	42

Note: Percentages may not add to 100 due to rounding.

* All other includes rehabilitation facility-based (1); nursing facility-based (108); proprietary, nonprofit, and others (2,780).

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations.

AMBULATORY CARE SERVICES

Ambulatory care services accounted for about 41.5 percent of all expenditures for personal health care services in 1990. This category includes all evaluation and management services (such as office and clinic visits), and procedures like surgeries, laboratory tests or imaging services. Services provided in ambulatory settings may substitute for care that would otherwise be provided in the hospital; for example, the widespread use of ambulatory surgical techniques has been responsible for the movement of some surgeries from the inpatient to the outpatient setting.

Ambulatory care in the United States is provided in many settings. Among these are hospital outpatient departments; free-standing ambulatory care facilities, including ambulatory surgical centers (ASCs), comprehensive outpatient rehabilitation facilities, diagnostic imaging centers, lithotripsy centers, dialysis centers, and other clinics; and physicians' offices. Hospital outpatient departments provide most of the procedures to the Medicare population (see Table 3-17). Ambulatory surgical centers often supply a limited range of surgeries, and physicians' offices furnish almost all evaluation and management services.[4] Each of these settings is described below.

Hospital Outpatient Services

From 1984 to 1991, the proportion of community hospitals with an organized outpatient department grew from 50 percent to 87 percent. Hospitals have also increasingly provided other ambulatory services, including rehabilitation, psychiatric, substance abuse, and family planning.[5] The expanded capacity to provide ambulatory services is reflected in dramatic increases in both hospital outpatient

Table 3-16. Growth in the Number of Medicare-Certified Rehabilitation Facilities, 1986-1993

Year*	Rehabilitation Hospitals		Rehabilitation Distinct-Part Units	
	Number of Certified Facilities	Percent Change	Number of Certified Units	Percent Change
1986	75	--	470	--
1987	87	14.7%	540	14.9%
1988	106	21.8	591	9.4
1989	126	18.9	627	6.1
1990	135	7.1	678	8.1
1991	152	12.6	700	3.2
1992	164	7.9	759	8.4
1993	168	2.4	770	1.4

* Data are for December 31 in each year except March 1, 1993.

SOURCE: Health Care Financing Administration, Office of Survey and Certification.

Table 3-17. Medicare Ambulatory Procedures, by Site of Service, 1990 (In Percent)

Procedure	Site				
	Hospital Inpatient Setting	Hospital Outpatient Department	Physician Office	Ambulatory Surgical Center	Other
All ASC-approved procedures	31%	41%	21%	5%	*
Cataract removal	4	71	4	19	1%
Cystourethroscopy	11	18	69	1	*
Colonoscopy	52	36	10	1	*
Laser surgery (eye)	2	41	41	16	*
Endoscopy-upper GI	15	52	30	2	*
All non-ASC-approved procedures	12	6	74	*	8
Radiology					
Diagnostic	41	30	29	*	*
Therapeutic	10	53	36	*	2
Nuclear	46	38	16	*	*
Ultrasound	28	24	48	*	*
Other diagnostic					
Evaluation and management	1	2	96	*	1
Other	31	10	55	*	4
Electrocardiogram	17	9	74	*	1
Cardiac catheterization	91	8	1	*	*

Note: Rows may not add to 100 due to rounding. ASC = ambulatory surgical center, GI = gastrointestinal.

* Less than 0.5 percent.

SOURCE: Health Care Financing Administration, Bureau of Policy Development.

revenues and expenditures. Between 1980 and 1990, hospital outpatient revenue increased from $11 billion to $63 billion. Since 1983, the annual increase in hospital outpatient revenue has been two to four times greater than the rise in inpatient revenue, and the share of hospital revenue attributable to outpatient revenue has more than doubled from 12.5 percent to 25.4 percent.[6]

About 20 percent of the growth in hospital outpatient revenues and expenditures can be attributed to greater utilization.[7] Hospital outpatient encounters rose to 322 million in 1991, a 6.9 percent increase over 1990. Procedures performed on Medicare beneficiaries also expanded rapidly (see Table 3-18). The number of hospital-based ambulatory surgeries skyrocketed from 3 million in 1980 to 12 million in 1991 (see Figure 3-1).

The rapid growth in outpatient surgery can be traced to several factors, three of which are mentioned here. First, development of shorter-acting anesthetics minimized the need for lengthy monitoring of patients following certain surgeries. Second, the diffusion of less-invasive surgical technologies like arthroscopes and laparoscopes reduced the necessity of inpatient care for some conditions. Third, the evolution of new cataract surgical techniques decreased the trauma and risks associated with this procedure.[8]

About 35 percent of the increase in hospital outpatient revenues and expenditures is due to greater intensity or complexity of services provided. For example, diagnostic capabilities were enhanced by advances in neurological, cardiac, and pulmonary testing.

Ambulatory Surgical Centers

Federal and state policies have introduced incentives that encouraged the growth and diversification of ambulatory care facilities that directly compete with hospitals. Four key policy changes are highlighted here. First, Federal legislation implemented in 1982 authorized payment of Medicare facility fees to ambulatory surgical centers. Second, HCFA expanded the list of procedures for which the ASCs could receive a facility fee, from about 500 in 1982 to some 2,400 in 1992. Third, growth was encouraged by HCFA's expansive interpretation of the Medicare ASC certification requirements—an interpretation that enabled many single-specialty,

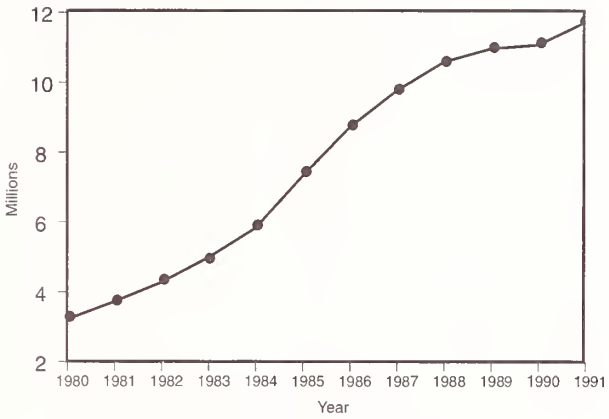
Table 3-18. Medicare Hospital Outpatient Procedures Responsible for Largest Proportion of Charges, 1990

Procedure	Number of Procedures	Percent Change 1988-1990
Cataract removal, insert lens	747,300	52%
Diagnostic colonoscopy	289,120	121
Colonoscopy, lesion removal	163,260	100
Upper GI endoscopy, diagnostic	195,600	90
Secondary cataract laser surgery	170,760	103
Upper GI endoscopy biopsy	164,900	111
Inguinal hernia repair	64,800	134
Cystoscopy	157,140	46
Colonoscopy and biopsy	112,280	113
Breast lesion removal	66,000	75
Wrist nerve revision	55,520	62
Kidney stone fragmentation	10,900	150
Breast biopsy	37,480	19
Dilation and curettage	37,760	50
Knee arthroscopy	18,320	63

Note: Includes ambulatory surgical center-approved services only.
GI = gastrointestinal.

SOURCE: ProPAC analysis of the 5% Hospital Outpatient Bill File from the Health Care Financing Administration.

Figure 3-1. Number of Hospital-Based Ambulatory Surgery Procedures, 1980-1991 (In Millions)



Source: American Hospital Association, *Hospital Statistics*, 1980 through 1992-93.

physician-sponsored facilities to obtain certification. Fourth, the liberalization or elimination by many states of their certificate of need requirements facilitated the creation and expansion of ASCs.[9]

Free-standing ambulatory surgical centers may be located in specially designed, single-unit buildings or in office complexes. They may be restricted to one surgical specialty or encompass several specialties. Seventy-eight percent of ASCs are independently owned, 15 percent are owned by corporate chains, and 7 percent by hospitals.[10] Independent ownership includes physicians, physician groups, and other investors.

In 1983, there were 239 ASCs and by 1991 this had increased to 1,556; 192 new facilities were added in 1991 alone.[11] The number of surgical centers varies by state. There are many more surgical centers in California and Florida, and far fewer in New York (see Table 3-19). Because ambulatory surgical services are available in hospital outpatient and other settings, geographic variation probably does not affect access to Medicare-covered services. However, it may influence access indirectly through differences in the amount of beneficiary liability, because liability for Medicare patients differs by setting. Usually, beneficiaries who receive a service in an ASC have lower copayments than those who get the same service in the outpatient hospital setting. In turn, this difference may affect either the willingness or ability of beneficiaries to receive services.

Procedures provided at ASCs also increased from 377,000 in 1983 to more than 2.5 million in 1991 (see Figure 3-2). Ambulatory surgical centers provide a range of surgical services. The three most common types, representing 55 percent of all ASC procedures, are ophthalmology; gynecological; and ear, nose and throat services.[12]

Physician Services

The number of active (practicing) physicians rose by 31.4 percent between 1980 and 1990 (see Table 3-20). This was considerably faster than the general population growth rate, and represented an 18.6 percent increase in physicians per capita.

Most physicians practice in small groups or individually. However, there has been a gradual trend toward the formation of larger group practices, which often offer surgical and other services that may require capital investment (see Figure 3-3). Simultaneously, the trend toward more office-based surgery continues (see Table 3-21).

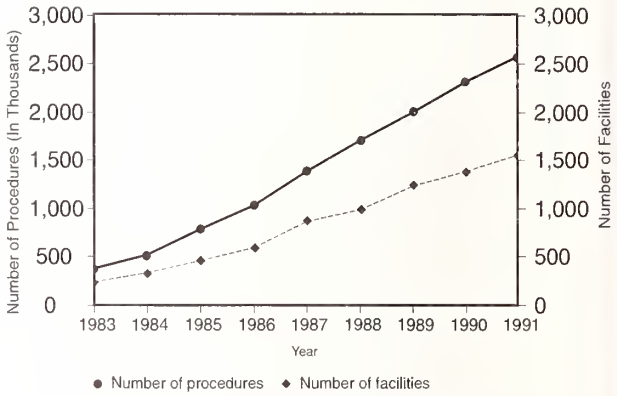
Physician referrals to health care facilities in which the health care practitioner has a significant

Table 3-19. Free-Standing Ambulatory Surgical Centers, by State, 1991

State	Number of Surgical Centers	Number of Surgical Centers Per 1,000 Population
U.S. total	1,556	10.2
Alabama	21	16.7
Alaska	3	7.8
Arizona	75	24.9
Arkansas	19	11.7
California	284	12.7
Colorado	24	6.8
Connecticut	17	10.4
Delaware	2	2.4
District of Columbia	10	37.6
Florida	125	16.1
Georgia	47	11.2
Hawaii	9	12.7
Idaho	10	9.3
Illinois	66	12.6
Indiana	33	10.2
Iowa	7	3.7
Kansas	21	16.7
Kentucky	14	7.8
Louisiana	46	17.3
Maine	11	7.2
Maryland	56	9.7
Massachusetts	16	4.4
Michigan	37	7.0
Minnesota	14	6.9
Mississippi	11	13.0
Missouri	26	9.8
Montana	9	11.6
Nebraska	4	3.0
Nevada	17	20.1
New Hampshire	6	7.1
New Jersey	31	8.7
New Mexico	7	2.6
New York	29	3.6
North Carolina	42	14.8
North Dakota	5	13.8
Ohio	47	7.0
Oklahoma	19	9.0
Oregon	15	9.8
Pennsylvania	35	6.0
Rhode Island	5	14.7
South Carolina	21	7.3
South Dakota	7	14.0
Tennessee	47	17.2
Texas	105	9.9
Utah	13	21.1
Vermont	0	0.0
Virginia	20	7.2
Washington	47	11.5
West Virginia	7	4.7
Wisconsin	13	6.5
Wyoming	1	5.3

SOURCE: SMG Marketing Group, Inc., *Freestanding Outpatient Surgery Centers Report and Directory*, July 1992.

Figure 3-2. Growth of Free-Standing Surgical Centers, 1983-1991



SOURCE: SMG Marketing Group, Inc., *Freestanding Outpatient Surgery Centers Report and Directory, 1992.*

financial interest have come under question. This is because the physician's financial incentives may influence treatment decisions. For example, it has been demonstrated that physician ownership of imaging equipment results in higher utilization and charges per episode of care.[13] Moreover, physician ownership of other types of ambulatory care services like physical therapy is associated with higher utilization and charges per patient.[14]

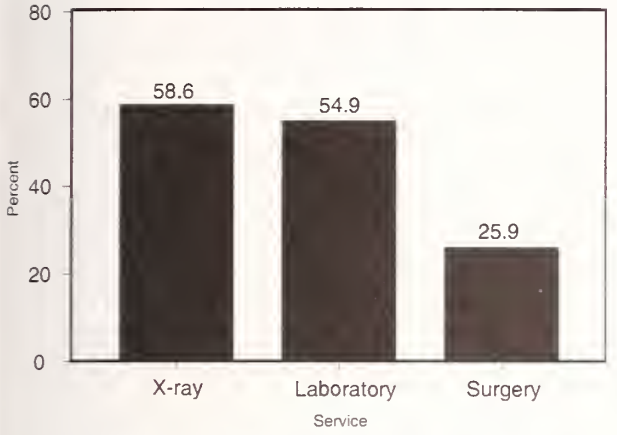
Additionally, the expansion of services outside the hospital outpatient department has led to concerns regarding quality. Although there are voluntary accreditation processes, physicians' offices remain largely unregulated. Reimbursement for cataract surgery illustrates this issue. To receive Medicare reimbursement for this procedure, ASCs must be

Table 3-20. Number of Active Physicians, Selected Years

Year	Active Physicians		
	Total	Medical Doctors	Doctors of Osteopathy
1965	288,700	277,600	11,100
1975	384,400	370,400	14,000
1980	457,500	440,400	17,100
1985	534,457	512,849	21,608
1990	601,010	572,910	28,100

SOURCE: Burner and others, "Projections of National Health Expenditures Through the Year 2030," *Health Care Financing Review* 14(1):1-28, Fall 1992.

Figure 3-3. Services Offered by Physician Medical Group Practices, 1992 (In Percent)



Note: Includes only groups with more than seven physicians. Numbers do not add to 100 because groups may offer more than one service.

SOURCE: SMG Marketing Group, Inc., *Physician Office Based Surgery*, 1993.

certified, whereas physicians' offices do not. However, there is some incentive for physicians' offices to become Medicare-certified ASCs so that they can receive the additional facility payment.

Growth in Ambulatory Services

Growth in the number and complexity of services provided outside of the hospital inpatient setting has been driven by various reimbursement and technology-related factors. To better understand why Medicare outpatient volume increased, ProPAC contracted for a study of the growth in five procedures from 1988 to 1990: breast biopsy and lesion removal, colonoscopies and sigmoidoscopies, knee arthroscopy, Neodmium-yttrium-aluminum-garnet (YAG) laser, and lithotripsy.[15] While the factors causing volume growth varied by procedure, they could be grouped as the following: epidemiological, clinical, technological barriers, capacity, and public awareness (see Table 3-22). The complexity of the reasons for service growth and changes in utilization is illustrated by these common procedures.

Table 3-21. Ambulatory Surgery Market Share, Selected Years (In Percent)

Site	1984	1988	1992*
Physician office	7.4%	6.9%	9.9%
Ambulatory surgical center	7.9	13.8	17.2
Hospital outpatient department	84.7	79.3	72.9

* Projection.

SOURCE: SMG Marketing Group, Inc., *Freestanding Outpatient Surgery Centers Report and Directory*, July 1992.

The etiology and epidemiology of a specific condition can identify the population at risk and often determine or alter treatment approaches. Some of the rise in the number of breast biopsies and lesion removals can be attributed to this factor. The increased incidence of breast cancer, due in part to an aging Medicare population, led to greater use of mammography screening. In turn, this drove up the number of Medicare patients undergoing breast biopsies and lesion removals. Colon polyps are also illustrative. Clinical research during the 1980s demonstrated that removing colon polyps can reduce cancer incidence and mortality. Physicians therefore began more frequently to recommend sigmoidoscopies for screening.

Other factors affect physician clinical practice patterns and treatment approaches and result in greater ambulatory service use. One of these is malpractice litigation. Failure to detect breast cancer is the second most common malpractice claim against physicians. Thus, the threat of malpractice suits encouraged earlier testing over conservative treatment approaches requiring mammographic follow-up. This has also contributed to the increased number of breast biopsies and lesion removals.

Advances in surgical techniques are a second factor influencing treatment approaches and driving up ambulatory services utilization. Less invasive procedures can lower the threshold for treatment, permitting patients with less severe symptoms to benefit from the procedure. Surgical management of knee injuries illustrates this point. Until surgical techniques advanced, knee repair required an inpatient stay for invasive surgery and rehabilitation. Improvements in arthroscopy allowed many knee repair procedures to be performed in an outpatient setting. With the greater availability of arthroscopic technology, more Medicare beneficiaries chose to undergo this procedure. This most likely increased the total number of beneficiaries treated surgically for this condition, as some may not have sought surgical treatment when the only alternative was an inpatient procedure.

Table 3-22. Factors Contributing to Increased Volume of Selected Ambulatory Surgical Procedures

Factor	Procedure				
	Breast Biopsy	Colonoscopy/ Sigmoidoscopy	Knee Anthroscopy	YAG Laser	Lithotripsy (ESWL)
Epidemiological					
Better understanding of disease	N/A	X	N/A	N/A	N/A
Increased incidence of disease	X	N/A	X	X	N/A
Clinical					
Change in treatment approach	X	X	N/A	N/A	X
Defensive medicine[a]	X	X	N/A	N/A	N/A
New/advanced techniques	N/A	N/A	X	X	X
Replaced open surgery	N/A	N/A	X	X	X
Improved efficacy/risk	N/A	N/A	X	X	X
Lower threshold[b]	N/A	N/A	X	X	X
Expanded indications for use	N/A	N/A	X	N/A	X
New treatment guidelines[c]	N/A	N/A	N/A	N/A	X
Shift to outpatient setting	N/A	N/A	N/A	N/A	X
Technological barriers					
Food and Drug Administration approval	N/A	N/A	N/A	O	O
Certificate of need regulation	N/A	N/A	N/A	N/A	X
Number of manufacturers	N/A	O	O	O	X
Capacity					
Increase in physicians	O	X	O	O	O
More physicians trained	O	X	X	X	X
Increase in hospitals offering service	--	--	--	--	X
Public awareness					
Patient preference	N/A	N/A	X	X	X
Celebrity status	X	X	X	N/A	N/A
Cancer screening	X	X	N/A	N/A	N/A
Education campaign	X	X	N/A	N/A	N/A

Note: X = significant factor, O = not a significant factor, N/A = not applicable, -- = not available, YAG = neodymium - yttrium-aluminum-garnet laser, ESWL = extracorporeal shock wave lithotripsy.

[a] Defensive medicine practiced less for colonoscopy/sigmoidoscopy than for breast biopsy.

[b] Lower threshold refers to the treatment of patients with less severe symptoms.

[c] The Agency for Health Care Policy and Research-funded *Clinical Practice Guideline Panel for Cataract in the Adult*, outlining treatment guidelines for YAG capsulotomy, was released in February, 1993.

SOURCE: Adapted from Abt Associates, Inc., *Exploring the Growth of Hospital Outpatient Surgeries: Final Report*, ProPAC Extramural Report No. E-93-03, March 1993, Tables 7-6 and 7-7.

Finally, practice patterns change when a procedure's indications are updated and expanded. For example, lithotripsy treatment for kidney stones increased shortly after publication of lithotripsy treatment guidelines.

In this study, barriers to the diffusion of technologies did not impede the utilization growth of any of the five procedures examined except lithotripsy. In that case, the relatively low number of manufacturers could have held down the rate of increase in utilization by slowing diffusion of machines.

The number of procedures performed is also influenced by the capacity to provide the procedure itself. For a given procedure, there may be more specialists or doctors who are trained to perform it. For example, both the number of gastroenterologists and the number of other physicians trained to perform colonoscopies grew between 1985 and 1990.

Hospital capacity to perform a procedure appeared to influence the growth in lithotripsy, although data were not available for the other procedures. Shifts in setting from the inpatient to

outpatient site also helped explain the growth in lithotripsy. However, by the end of the 1980s, a majority of the most commonly performed surgical interventions were well-established outpatient practices—knee arthroscopy, breast biopsy, YAG laser surgery, sigmoidoscopies, and lithotripsy.

Finally, patient preferences and public awareness were also important factors in the growth in numbers of certain procedures. As procedures became less invasive or less painful—and as recovery time shortened—patients were more likely to have them performed. Public education campaigns, such as that for breast cancer education sponsored by the American Cancer Society, have also increased consumer and physician awareness.

Many factors have contributed to the growth in utilization of ambulatory services, including both physician practice patterns and patient preferences. The success of future initiatives to control growth thus may involve education and changes in expectations on the part of physicians and patients.

MANAGED CARE

Over the past decade, alternative forms of health care delivery and financing have emerged, particularly managed care delivery systems. Managed care integrates the financing and delivery of health care services by arranging with selected providers to furnish a comprehensive set of health care services to members. Managed care arrangements generally have explicit standards for choosing health care providers, and maintain formal programs of ongoing quality assurance and utilization review. Finally, these programs give members significant financial incentives to use providers and procedures covered by the plan.[16] Managed care programs continue to evolve from the earliest models of prepaid group practices—or HMOs—to varied forms of preferred provider organizations (PPOs). This section explains the different types of HMOs and PPOs, and examines their rapid growth over the past decade.

Health Maintenance Organizations

The earliest health maintenance organizations started as prepaid group practices. Although they can take different forms, HMOs share many characteristics. They generally provide a defined, comprehensive set of services to a voluntarily enrolled population in a specific geographic area. Many HMOs use primary care physicians as gatekeepers and prohibit self-referrals, even to specialists within the plan. The plan, or in some cases the primary care physician as well, assumes some of the financial risk of high patient utilization. The HMO negotiates payment with the providers. Typically, providers are paid on a capitated or other at-risk basis; one example is a fee schedule where part of the payment is withheld unless specific performance criteria are met. Enrollees in HMOs have few cost sharing obligations compared with those in other insurance arrangements. In addition, the paperwork requirements of enrollees and providers is limited compared with that in other insurance arrangements.

There are four generally recognized types of HMOs: staff, group, network, and independent practice association (IPA). Many HMOs combine two or more of these approaches into a mixed model approach.

The most restrictive type of HMO is the traditional staff model. In this model, the HMO strictly limits patient choice and use of various providers, precludes its primary care physicians from treating non-HMO patients, and limits where specialist and hospital care is provided. In the staff model, physicians typically are salaried employees. Often the physicians may also receive bonus or incentive payments based on their performance and productivity.

At the other end of this spectrum are IPAs, which emphasize a balance of patient choice, physician autonomy, and cost containment efforts. In the IPA model, the HMO contracts with individual physicians or with associations of physicians in independent practice to provide services at a negotiated per capita rate, flat retainer, or negotiated fee-for-service rate, with part of the fee withheld for a hospital and referral pool. Physicians in the IPA model retain their independent practice and continue to see non-HMO clients.

The characteristics of the group and network models lie along this spectrum of types of HMOs. In the group model, the HMO contracts with one independent group of physicians to provide health care services based on a negotiated per capita rate for all primary and referral physician care. The physicians in the group are not employees of the HMO; however, as with the staff model they are

often salaried. In certain group models the physicians are exclusive to the HMO and do not provide care to non-HMO members. In the network model, the HMO contracts with two or more independent group practices to provide services. The groups typically are broad-based multispecialty practices or primary care physician groups, paid a per capita rate.

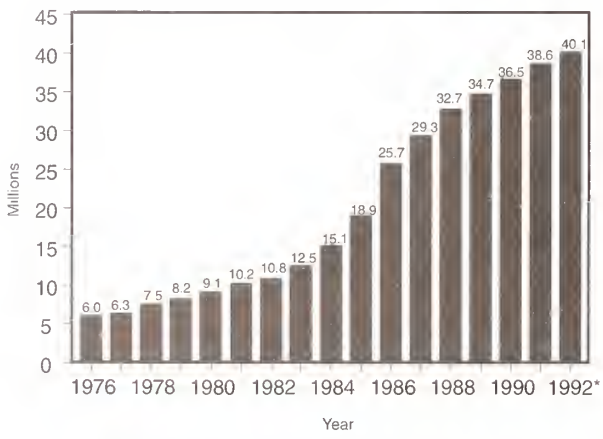
Enrollment in HMOs has grown from 6 million in 1976 to an estimated 40 million in 1992 (see Figure 3-4).[17] Between 1983 and 1988 alone, 20 million new enrollees were added. Since 1988, enrollment has slowed, but HMOs continue to increase their market penetration. In 1991, more than 15 percent of all U.S. residents were covered by HMOs and almost 18 percent of the insured were members of HMOs.[18] Currently, IPAs are the most popular type of plan, representing about 45 percent of HMO enrollment in 1991.

Utilization review is often employed by HMOs to ensure appropriateness of medical services provided to enrollees and to control plan expenditures. The focus, extent, and effectiveness of this review vary among the plans. Three common utilization review strategies are preadmission certification, discharge planning, and case management. Preadmission certification is used to evaluate the appropriateness of elective admissions, diagnostic tests, and surgical procedures. Discharge planning is used to monitor and minimize hospital length of stay. Case management provides coordination and oversight of the full range of services provided for patients who are expected to have long hospital stays and require intensive therapy.

HMO enrollees use fewer services than the general population (see Table 3-23). The average number of hospital discharges per 1,000 is 72 for HMO enrollees under age 65, compared with the national average of 94. Persons 65 or older enrolled in HMOs average 227 hospital discharges per 1,000; this is below the national average of 330. HMO enrollees have shorter hospital lengths of stay and average about one less physician encounter than the general population. These utilization statistics have been relatively stable for HMO enrollees, although national hospital use rates have declined for the general population.[19] The lower rates in HMOs may be attributable to differences in the incentives for use of services or to enrollment of a healthier than average population.

Group and staff model HMOs have been shown to reduce hospital utilization, and thus presumably to lower total expenditures. One study of how different types of insurance plans affected use found that enrollees randomly assigned to an HMO used 40 percent fewer hospital services, resulting in 25 percent lower spending.[20] Medicare beneficiaries enrolled in a group or staff model HMO used significantly fewer health services, even after controlling

Figure 3-4. Health Maintenance Organization Enrollment, 1976–1992 (In Millions)



* Estimated.

SOURCE: Group Health Association of America, *Patterns in HMO Enrollment*, 1992, and Group Health Association of America, *1992 HMO Market Position Report*, 1992.

Table 3-23. Health Care Utilization by the General Population and Health Maintenance Organization Enrollees, by Age Group, 1989

Age Group	Number Per 1,000 Individuals: Hospital Days	Number Per 1,000 Individuals: Hospital Discharges	Average Length of Stay (Days)	Average Number of Physician Encounters
Under age 65				
HMO	316	72	4.3	3.6
National	499	94	5.2	4.4
Age 65+				
HMO	1,545	227	6.8	7.0
National	2,930	330	8.9	8.1

SOURCE: Group Health Association of America Annual HMO Industry Survey.

for differences in the characteristics of enrollees. On the other hand, usage was not lower for beneficiaries enrolled in an IPA.[21] A more recent study focused on variations in treatment practices by physicians in different settings, controlling for differences in patient severity. Results showed that fewer hospital services per HMO enrollee were used, compared with patients treated by private physicians in solo practice.[22]

While these studies show that some types of HMOs may be effective in controlling utilization and expenditures, similar evidence is not available for less restrictive forms of managed care. Additionally, for those forms of managed care that have proven effective, there seems to be only a one-time cost reduction. That is, managed care achieves its cost savings through initial reductions in spending, but does not reduce the growth in spending over the long term.[23]

Preferred Provider Organizations

Preferred provider organizations are another form of managed care. Developed in the 1980s, PPOs combine features of fee-for-service indemnity insurance plans with certain aspects of HMOs that encourage enrollees to use selected providers. Compared with HMOs, PPOs generally provide more flexibility in provider choice by allowing enrollees to use non-plan physicians and hospitals. Out-of-plan service is generally covered, but at higher copayments and deductibles. Further, these types of plans generally are easier to develop and operate.

PPOs typically are organized by insurers that contract with providers to furnish medical services based on a negotiated fee schedule. Often these providers have demonstrated low-cost patterns of treatment. The basic structure of a PPO is similar to an indemnity insurance plan, where enrollees pay deductibles and coinsurance, and bills must be submitted for reimbursement. Enrollees have incentives to use plan providers because of lower deductibles and coinsurance. Unlike HMOs, PPOs generally do not have risk sharing arrangements with plan physicians for specialty referrals and other types of utilization. The PPOs also use various utilization management programs—such as precertification, concurrent review, and discharge planning—to reduce unnecessary use of inpatient services. Physician practice patterns are also monitored to provide the network providers with feedback on variations in practice patterns.[24]

Exclusive provider organizations are the most restrictive version of a PPO. Care provided by non-plan providers is not covered, essentially increasing enrollee copayments to 100 percent. This makes these plans similar to most HMOs in that non-plan providers are not covered. However, they are still a basic indemnity insurance plan with a limited provider network.

The number of PPOs has grown substantially, from 115 plans in 1984 to 978 in 1991. Since 1987, individuals eligible for coverage under these plans have increased almost threefold, from 28 million to 85 million, more than twice HMO enrollment.[25] The incentives to control utilization are much weaker in PPOs; unlike HMOs, PPOs permit enrollees to use non-plan providers and still cover part of the costs.

Point-of-Service Plans

The latest evolution in managed care is point-of-service plans, which combine certain aspects of HMOs and PPOs. Like an HMO, a network of participating providers is employed, with primary care physicians as gatekeepers to control referrals to specialists. Use of plan providers requires small out-of-pocket payments, but often with no claims filing. As with a PPO, payments are made for care from non-plan providers, but at substantially higher coinsurance and deductibles. Point-of-service plans were first developed by HMOs (also known as open-ended HMOs) in the late 1980s to give enrollees more freedom of choice in selecting providers. PPO-based point-of-service plans, which share many characteristics typical of PPOs, have also been developed, though are currently less common.

Point-of-service plans frequently use payment incentives for primary care physicians to share some of the risk for out-of-network care. In contrast, providers in the PPO-based model are usually paid on a discounted fee-for-service basis, but have no risk sharing. The incentives in the PPO-based model are directed at the enrollee through different copayments and deductibles.

An increasing number of HMOs are offering point-of-service products. While these plans have undergone rapid growth in enrollment, only about 4 percent of HMO enrollees were in such plans in 1992.[26] Enrollment in PPO-based point-of-service plans is not known, but probably is less than HMO-based plans. Point-of-service plans are becoming increasingly popular, however. One employer survey showed that employee enrollment in point-of-service plans had grown from 3 percent in 1991 to 8 percent in 1992. The survey found that many employers view these plans as a vehicle to move all employees into a managed care environment without denying them the ability to retain their out-of-network doctors at higher out-of-pocket costs. According to the survey, insurers and employers believe that once employees use the network providers, they will continue to do so.[27]

Medicare Managed Care

Medicare beneficiaries may also participate in managed care plans. The primary managed care effort within Medicare is the HMO risk contract, which was created by TEFRA legislation in 1982 and is referred to as the TEFRA HMO program. However, both plan and enrollee participation in the TEFRA HMO program has remained modest. In an effort to encourage Medicare beneficiaries to enroll in some form of managed care, HCFA has recently begun to offer several other managed care options.

The TEFRA HMO Program—TEFRA established the framework for HMOs to enroll Medicare beneficiaries under risk contracts. HMOs receive a predetermined payment for providing Medicare-covered services to beneficiaries enrolled in their plan. Plans are at risk for high-cost care but may also make a profit, up to a capped limit.

Participating HMOs are required to cover all Medicare Part A and Part B benefits. Beneficiary cost sharing is limited to the level paid by the general Medicare population. HMOs providing benefits beyond what Medicare covers can charge an additional premium. The HMO must inform the beneficiary that purchasing the extra coverage is voluntary. The HMO must reduce its premium rate if Medicare's payment exceeds the estimated price the HMO would charge commercial enrollees. As of January 1993, more than one-fifth of the plans did not charge a monthly premium. For those that did, the average premium was $38.06 (see Table 3-24).

As of January 1993, 90 plans with about 1.5 million Medicare enrollees were participating in the TEFRA program, with an average enrollment level of 17,276 Medicare beneficiaries. In 1991, almost two-thirds of all plans had fewer than 10,000 Medicare enrollees, while only 15 percent had more than 20,000. The number of HMOs participating in the TEFRA program has steadily declined since 1987, when it peaked at 134 (see Table 3-25). However, HMOs remaining in the program are large, and total Medicare beneficiary enrollment has continued to grow.

In 1991, 56.6 percent of plans participating under TEFRA were IPAs, and more than half the plans were nonprofit (58.4 percent). More than two-thirds of the plans were affiliated with a national chain.[28] Participation in the TEFRA program varies by geographical location; participating plans are concentrated in the Pacific and South Atlantic regions.

Many plans provide non-Medicare-covered services to enrollees (see Table 3-26). More than half the plans offer routine physicals, immunizations, eye and ear exams, and preventive services that Medicare does not cover in the fee-for-service market. A third of the plans cover health education and outpatient prescription drugs. However, few plans cover optical lenses and hearing aids, and none provides mental health coverage.

Issues Regarding the TEFRA HMO Program—The TEFRA HMO provider participation rate has decreased over time. Furthermore, although beneficiary enrollment has not declined, it continues to be a small percentage of the Medicare population.

A number of factors, particularly environmental characteristics, influence an HMO's decision to participate in the program. HMOs located in areas with fewer primary care physicians and the lowest hospital prices were more likely than others to leave the TEFRA program.[29] Plans that charged above-average premiums or that offered expensive additional benefits, as well as HMOs with more than 15 percent of their business in

Table 3-24. Medicare TEFRA Health Maintenance Organization Plan Characteristics, 1991 (In Percent)

Characteristic	Percent of Enrollment	Percent of Plans	Percent of Plans with Enrollment of			
			1 to 1,000	1,001 to 10,000	10,001 to 20,000	> 20,000
Model type						
IPA	38.7%	56.6%	21.3%	48.9%	21.3%	8.5%
Group	24.2	27.7	26.1	30.4	21.7	21.7
Staff	37.1	15.7	0.0	53.9	23.1	23.1
Region*						
New England	3.4	8.4	14.3	71.4	14.3	0.0
Middle Atlantic	6.7	10.8	11.1	66.7	11.1	11.1
South Atlantic	20.8	13.3	27.3	27.3	36.4	9.1
Midwest	13.8	21.7	16.7	50.0	22.2	11.1
South Central	2.6	8.4	28.6	57.1	14.3	0.0
Mountain	8.4	13.3	36.4	27.3	18.2	18.2
Pacific	44.3	24.1	10.0	35.0	25.0	30.0
Plan premium ($ per month)						
$0	42.8	21.7	5.6	33.3	38.9	22.2
$1 to $30	17.1	9.6	12.5	25.0	25.0	37.5
$31 to $50	18.2	22.9	21.1	47.3	21.1	10.5
$51 to $75	13.9	33.7	28.6	50.0	14.3	7.1
>$75	8.0	12.1	20.0	60.0	10.0	10.0
AAPCC Rate						
>$400	41.6	18.1	20.0	26.7	33.3	20.0
$351 to $400	24.6	22.9	15.8	42.1	21.1	21.1
$301 to $350	26.6	33.7	7.1	53.6	21.4	17.9
$251 to $300	7.2	25.3	38.1	47.6	14.3	0

Note: Columns sum to 100 for each characteristic category. Rows sum to 100 for enrollment size categories before rounding. TEFRA = Tax Equity and Fiscal Responsibility Act of 1982, IPA = independent practice association, AAPCC = adjusted average per capita cost. Calculations are for all plans with positive enrollment as of January 1991.

* Corresponds to the definition used by the Group Health Association of America.

SOURCE: Mathematica Policy Research, Inc., *The Third Annual Report of the Evaluation of TEFRA HMO and CMP Program,* February 1992.

Medicare risk contracting, were also more likely to leave the program.

An evaluation of the TEFRA HMO program suggests that HMOs with a small enrollment base, sicker than average patients, and a large number of enrollees in rural areas may have difficulty controlling their costs. Since HMO payment is based on the average per capita expenditures for other area Medicare beneficiaries, HMOs located in places with high utilization (and therefore high per capita expenditures) tend to do well.[30] Potential changes in the way Medicare reimburses HMOs under the TEFRA program are being considered.

Other Managed Care Options in the Medicare Program—As part of Medicare's effort to encourage more Medicare beneficiaries to enroll in managed care, HCFA has begun to offer several other managed care options. The Medicare program contracts with some HMOs on a cost reimbursement basis; enrollees are allowed to go outside the HMO and use the Medicare fee-for-service program at any time. HCFA currently has cost reimbursement contracts with 57 HMOs covering almost 550,000 enrollees.

HCFA also is sponsoring several demonstration projects to provide managed care to Medicare beneficiaries. One demonstration program for PPOs launched in 1988 includes five variations on the PPO approach. The PPO demonstration has proceeded slowly due to implementation problems. The Medicare Select Program was authorized in OBRA 1990, with implementation in 1992. Under

Table 3-25. Medicare Health Maintenance Organization Risk Contract Plans and Enrollment, 1986-1991

Year	Number of Plans	Total Enrollment	Average Enrollment	Percent of Total Medicare Beneficiaries
1986	71	467,381	6,583	1.5%
1987	134	836,706	6,244	2.6
1988	122	981,145	8,042	3.0
1989	101	1,039,901	10,296	3.1
1990	94	1,091,635	11,613	3.2
1991	83	1,240,474	14,946	3.5

SOURCE: Mathematica Policy Research, Inc., *First Annual Report: The Evaluation of the TEFRA HMO/CMP Program*, June 1990, and the *The Third Annual Report of the Evaluation of the TEFRA HMO and CMP Program*, February 1992.

this demonstration, beneficiaries can buy medigap insurance that pays Medicare's usual deductible and coinsurance if they use the insurer's network of providers; if they go outside the network, Medicare's usual copayments apply.[31] The National Social Health Maintenance Organization (SHMO) Demonstration was designed to expand coverage of community and nursing home services in a controlled manner and to link these services with acute care. The HMOs participating in the SHMO demonstration provide acute and long-term care, including nursing home care and home services such as homemaker, personal care aides, and respite services as well as adult day care and transportation.[32]

Table 3-26. Benefits Provided by Medicare TEFRA Health Maintenance Organization Plans, 1993

Benefit	Number Providing Benefit
Total number of plans	93
Routine physicals	86
Immunizations	79
Health education	30
Outpatient prescription drugs	29
Foot care	21
Eye exam	75
Lenses	4
Ear exam	59
Hearing aid	1
Dental care	23
Mental health	0

SOURCE: Health Care Financing Administration, Office of Prepaid Health Care Operations, monthly report of Medicare Prepaid Health Plans, March 1993.

Another demonstration project involves contracting with selected hospitals and their medical staffs to provide all the services associated with certain procedures. These demonstrations focus on identifying appropriate costs and thus reducing Medicare payments. The first project involves coronary artery bypass graft procedures. Hospitals receive the payments and distribute fees to physicians. Beneficiaries have lower cost sharing requirements. Four sites are participating in this three-year project, which began in 1991. A similar demonstration has been designed for cataract procedures, though project implementation has been delayed due to legal actions.

CONCLUSIONS

Although the number of acute care hospitals has declined since the beginning of PPS, the number and types of other health care facilities have increased dramatically. Medicare beneficiaries have more alternatives to hospital inpatient services and an increasing supply of services that can complement this care, including the rehabilitative services provided in post-acute settings.

The use of post-acute care services like SNF and home health care has risen substantially over the past few years. This is partly because of the clarification in Medicare coverage rules and a decrease in claims denial rates. However, other policy changes, such as more stringent Medicaid certification standards for nursing facilities, may have driven up the supply of beds available to Medicare beneficiaries, resulting in greater use. ProPAC is studying the relationship between payment incentives and use, and will continue to monitor utilization of such services.

The growth of Medicare ambulatory services has been an important contributor to higher program spending. Beneficiary use of ambulatory surgical services, in particular, is accelerating. The increased use of these services is influenced by a number of factors. Among these are better understanding of diseases as well as changes in physicians' practice patterns and treatment approaches, technological requirements, the capacity of physicians and hospitals to perform procedures, reimbursement practices, supply of technology, and patient preferences.

Finally, the last decade has seen major changes in the financing and delivery of health care services. Managed care delivery systems are more widespread and continue to evolve. Medicare beneficiaries also have increasing options for managed care. Certain managed care systems appear effective in controlling expenditures. However, enrollment grew slowly in these types of plans. Further, the reduction in expenditures appears to be a one-time only cost reduction, with no effect on the growth in spending over time.

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Chapter 4

Medicare Beneficiaries

Chapter 4

Medicare Beneficiaries

Dramatic changes in the financing and delivery of health care have caused shifts in the site of service delivery for Medicare beneficiaries and resulted in the redistribution of Medicare provider payments. Although hospital inpatient services continue to account for the largest share of Medicare expenditures, the proportion of beneficiaries receiving these services is falling. At the same time, growing numbers are receiving services in other sites. Within these aggregate trends, beneficiary use varies considerably across patient and provider characteristics.

This chapter focuses on the Medicare beneficiary. The first section presents trends in enrollment, service use, expenditures, and beneficiary liability for Medicare-covered services. Various types of insurance that supplement Medicare coverage (and the characteristics of such policies) are highlighted in the second section. This discussion addresses post-retirement benefits and the growing obligation they represent for American businesses. Characteristics of Medicare enrollees who are also covered by Medicaid are described.

Utilization is then explored across population groups because it can be a proxy for access to care. Differences may indicate potential access problems or inappropriate use. Use of hospital services by various socio-demographic, health status, and income groups for the entire U.S. population is presented first. This is followed by Medicare-specific data. The types of hospitals Medicare patients frequent and the major diagnosis-related group (DRG) categories for which they are treated are documented. Characteristics of the Medicare beneficiaries receiving Medicare-covered outpatient department visits, and home health agency and skilled nursing facility (SNF) services are then described. Last, some characteristics of Medicare enrollees who elect to receive their medical care in health maintenance organization (HMO) plans are identified.

The chapter closes with a study comparing care received before, during, and after hospitalizations in urban and rural hospitals for six selected conditions. This study is part of a continuing effort to look beyond isolated services to examine episodes of care received by Medicare patients. Rather than focusing on individual hospitalizations, the study compares total charges and outcomes for urban and rural episodes to identify possible adverse events following the hospitalization. The analysis indicates that rural episodes of care involve a shorter length of stay and less post-acute care after a hospitalization. However, mortality does not differ substantially between urban and rural episodes of care for the same condition.

THE MEDICARE PROGRAM

About 99 percent of the elderly population has health insurance, with the great majority (96 percent) covered by Medicare. This program consists of two parts: Medicare Hospital Insurance (Part A) and Supplementary Medical Insurance (Part B). Medicare Part A coverage includes inpatient hospital care, home health care, and limited skilled nursing facility care. Medicare Part B coverage includes physicians' services, hospital outpatient services, outpatient kidney dialysis, and medical supplies and durable equipment.

Eligibility for Part A is based on age, disability status, or having irreversible kidney failure (end-stage renal disease or ESRD). People who are over 65 and eligible for cash benefits under Social Security (including Railroad Retirement beneficiaries) are automatically eligible for Part A. The small number of those 65 and over who are not eligible for these benefits may purchase Part A coverage at the full actuarial cost. People of any age with a permanent total disability are also eligible for Part A.[1]

Table 4-1. Trends in Medicare Enrollment, 1980-1993 (In Millions)

Year[a]	Number of People		
	Total	Aged	Disabled
1980	28.3	25.3	3.0
1981	28.8	25.8	3.0
1982	29.3	26.4	3.0
1983	29.9	26.9	3.0
1984	30.4	27.4	2.9
1985	31.0	28.0	2.9
1986	31.6	28.6	3.0
1987	32.2	29.2	3.0
1988	32.8	29.7	3.1
1989	33.4	30.2	3.2
1990	34.0	30.8	3.3
1991	34.7	31.3	3.4
1992[b]	35.3	31.8	3.6
1993[b]	35.9	32.2	3.7

[a] As of July of the specified year.

[b] Estimated.

SOURCE: Health Care Financing Administration, Office of the Actuary.

Part B is a voluntary program, open to everyone eligible for Part A. In 1993, enrollees in Part B pay a monthly premium of $36.60 ($439.20 per year). Although Part B is voluntary, nearly all elderly enrollees and disabled persons eligible to enroll elect to participate in it. ESRD beneficiaries have a particular incentive to purchase Part B because it covers outpatient dialysis.

Enrollment and Utilization

In 1992, approximately 35 million people were enrolled in Part A, Part B, or both (see Table 4-1). About 10 percent were eligible because of disability or ESRD.

In 1990, almost 80 percent of Medicare enrollees received services covered by Medicare, compared with 63 percent in 1980 (see Table 4-2). This increase was driven by higher use of post-acute and ambulatory services. The proportion of Medicare enrollees using inpatient services fell from 23.7 percent in 1980 to 19.4 percent in 1990, an average annual decline of 2 percent. Hospital admissions for those 65 and over decreased during the first three years after implementation of the prospective payment system (PPS). The number of admissions has increased since 1987, but not as fast as the growth in the number of Medicare enrollees. Thus, Medicare inpatient hospital utilization per enrollee has continued to decline since the onset of PPS, but at a decreasing rate.

Use of Medicare-covered post-acute services doubled from 1980 to 1990. In 1990, 1.9 percent of Medicare beneficiaries used skilled nursing facilities, compared with 0.9 percent in 1980. The largest increase occurred between 1988 and 1989, largely due to the Health Care Financing Administration's (HCFA) clarification of coverage guidelines and to the Medicare Catastrophic Coverage Act (MCCA) of 1988. MCCA eliminated the requirement for a hospitalization prior to SNF coverage. Use of home health agency services increased from 2.6 percent of enrollees in 1980 to 5.8 percent in 1990. Early growth in utilization resulted from the Omnibus Budget Reconciliation Act (OBRA) of 1980, which allowed more home health agencies to participate in the Medicare program. More recent growth is the result, in part, of administrative changes that expanded eligibility for services and broadened the scope of covered services.

Table 4-2. Aged and Disabled Persons Served by Medicare, Selected Years (Per 1,000 Enrollees)

Type of Coverage/Provider	Persons Served						Average Annual Percent Change
	1980	1982	1984	1986	1988	1990	1980-1990
Total	633.2	638.2	681.3	726.9	761.7	795.2	2.3%
Hospital Insurance (Part A)	240.6	251.4	239.9	211.0	207.6	209.0	-1.4
Inpatient hospital	237.1	243.5	229.0	203.2	197.5	194.3	-2.0
Skilled nursing facility	9.2	8.7	10.0	9.7	11.9	18.9	7.5
Home health agency	25.9	39.7	49.9	50.3	48.8	57.6	8.3
Supplementary Medical Insurance (Part B)	650.5	653.5	697.5	748.9	789.6	829.1	2.5
Physician	629.9	696.1	674.8	725.9	768.7	810.4	2.6
Hospital-provided outpatient services	275.1	297.3	332.2	399.6	447.6	476.6	5.6

Note: Rates based on enrollment in Part A, Part B or both, as appropriate.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy.

Use of Medicare hospital outpatient services has also increased markedly. In 1980, 27.5 percent of Medicare enrollees used these services, compared with 47.7 percent in 1990. Development of new technologies and changes in physician practice patterns contributed to this growth in two ways. First, services formerly provided on an inpatient basis were shifted to outpatient settings. Second—and most important—these factors have stimulated growth in the number of procedures performed.

Physicians' services continue to be the most widely used Medicare benefit, with the proportion of enrollees using physician services rising from 63 percent in 1980 to 81 percent in 1990.

Medicare-covered services do not include Part B services provided to enrollees who failed to meet their Part B deductibles. Part B deductibles rose more slowly than health care prices during the 1980s. Thus, part of the increase in the proportion of enrollees receiving covered services reflects the fact that it became easier to meet the deductible in later years.

Medicare Payments

Total Part A and Part B payments in 1992 were about $136 billion. This represents a 12.5 percent increase over 1991 and a rise of 109 percent from 1984 (see Table 4-3).[2] Part A expenditures totaled $85.3 billion in 1992, almost 15 percent more than in 1991. In 1992, 53 percent of total Medicare spending, or $72.6 billion, was for hospital inpatient services, compared with 24.8 percent ($33.8 billion) for physician services (see Table 4-4).

Part A expenditures for hospital inpatient services rose 11.0 percent in 1992. Because hospital inpatient services constitute the largest component of Medicare spending, these services accounted for most of the increase in expenditures. By contrast, the percentage increases in SNF and home health agency spending were much larger, but explained a smaller share of spending growth (see Figures 4-1 and 4-2).

Part B spending grew by only 9 percent, to $50.9 billion in 1992. The recent decline in the rate of growth was due in part to physician payment reform.

Expenditures grew faster than the number of Medicare enrollees. From 1991 to 1992 Part A expenditures per enrollee increased by 12.7 percent, to $2,417, while Part B expenditures per enrollee rose by 7.1 percent, reaching $1,441 (see Tables 4-5 and 4-6). Since 1988, the rate of increase in Medicare expenditures per enrollee has been highest for SNF services, followed by home health agency services.

Liability

Enrollees are affected directly by the continuing escalation in health care spending because of

Table 4-3. Estimated Medicare Benefit Payments, 1980-1992

Year	Total Medicare		Part A*		Part B	
	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change
1980	$36.3	--	$25.5	--	$10.9	--
1981	43.6	20.0%	30.7	20.7%	12.9	18.6%
1982	51.0	17.0	35.6	16.1	15.4	19.4
1983	58.0	13.7	39.9	11.8	18.2	18.0
1984	65.1	12.1	44.7	12.2	20.4	12.0
1985	70.3	8.1	47.4	6.0	22.9	12.6
1986	75.8	7.8	49.1	3.6	26.7	16.3
1987	80.5	6.3	49.7	1.2	30.8	15.6
1988	87.0	8.0	52.4	5.3	34.6	12.4
1989	98.6	13.3	60.3	15.1	38.3	10.6
1990	109.0	10.6	66.4	10.2	42.6	11.2
1991	121.1	11.1	74.4	12.0	46.7	9.6
1992	136.2	12.5	85.3	14.7	50.9	9.0

Note: Payments reported here are incurred expenditures rather than outlays.

* Includes Part B home health agency expenditures.

SOURCE: Health Care Financing Administration, Office of the Actuary.

Table 4-4. Estimated Medicare Benefit Payments, by Type of Service, 1980-1992

	Part A						Part B			
	Inpatient		Skilled Nursing		Home Health Agency*		Physician		Outpatient	
Year	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change
1980	$24.5	--	$0.4	--	$0.6	--	$ 8.4	--	$1.9	--
1981	29.4	20.1%	0.5	9.5%	0.9	52.1%	10.1	19.4%	2.3	20.4%
1982	33.9	15.4	0.5	9.3	1.2	43.8	12.1	20.3	2.7	20.3
1983	37.8	11.3	0.6	6.7	1.6	26.5	14.2	17.6	3.2	18.4
1984	42.3	12.0	0.6	6.9	1.8	17.5	15.7	10.3	3.7	15.5
1985	44.9	6.1	0.6	2.9	1.9	3.8	17.2	9.7	4.4	16.8
1986	46.5	3.8	0.6	0.2	1.9	-0.4	19.6	13.6	5.3	20.3
1987	47.1	1.2	0.6	8.8	1.9	-1.5	22.2	13.3	6.2	18.1
1988	49.2	4.5	1.0	51.8	2.0	8.2	24.5	10.6	7.0	13.2
1989	54.0	9.8	3.5	264.8	2.5	24.2	27.0	9.9	7.6	8.6
1990	59.7	10.4	2.5	-28.2	3.9	54.5	29.6	9.8	8.5	11.9
1991	65.4	9.6	2.8	10.3	5.7	46.3	31.8	7.4	9.7	13.1
1992	72.6	11.0	4.5	62.7	8.2	44.3	33.8	6.2	10.9	12.4

Note: Payments reported here are incurred expenditures rather than outlays.

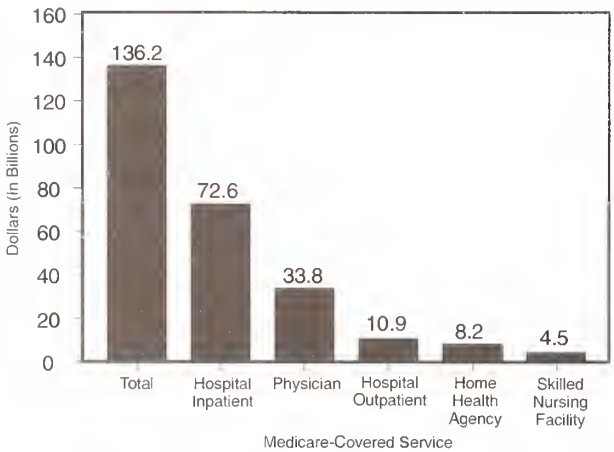
* Includes Part B home health agency expenditures.

SOURCE: Health Care Financing Administration, Office of the Actuary.

Medicare cost sharing requirements. They are responsible for Part B premiums, copayments, deductibles, and charges in excess of the allowed amount for services from physicians who do not accept assignment (see Table 4-7).[3] In 1993, for example, beneficiaries must pay an inpatient hospital deductible of $676 for the first 60 days of care. In addition, Medicare does not cover outpatient prescription drugs and limits preventive care to screening mammograms, Pap smears, and pneumonococcal pneumonia vaccines.

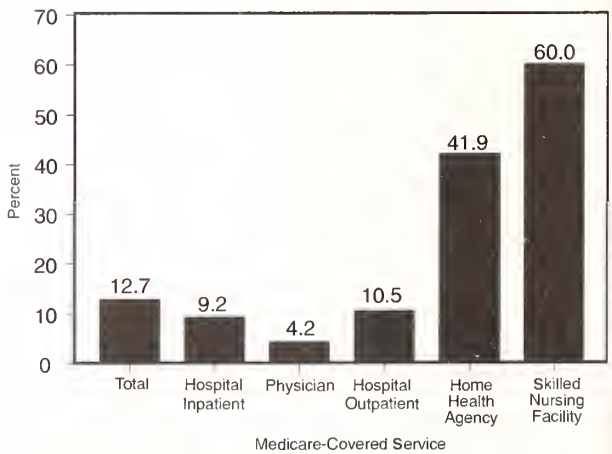
Beneficiary liability in 1992 (including Part B premiums) was 21.4 percent of Medicare expenditures. Beneficiaries were responsible for 8 percent of their total hospital inpatient spending and 32.9 percent of non-inpatient services (see Table 4-8). For non-inpatient services, liability also varies significantly by site of service. For example, beneficiary liability is higher for services provided in a hospital outpatient department than for those provided in a physician's office.

Figure 4-1. Medicare Benefit Payments, 1992 (In Billions)



SOURCE: Health Care Financing Administration, Office of the Actuary.

Figure 4-2. Increases in Medicare Benefit Payments Per Enrollee, 1991-1992 (In Percent)



SOURCE: Health Care Financing Administration, Office of the Actuary.

Table 4-5. Part A Benefit Payments Per Enrollee, by Type of Service, 1980-1992

Year	Total		Inpatient		Skilled Nursing		Home Health	
	Expenditures	Percent Change	Expenditures	Percent Change	Expenditures	Percent Change	Expenditures	Percent Change
1980	$ 900	--	$ 865	--	$ 15	--	$ 20	--
1981	1,067	18.6%	1,021	18.0%	16	7.6%	30	49.5%
1982	1,217	14.1	1,158	13.4	17	7.5	42	41.3
1983	1,333	9.5	1,263	9.1	18	4.6	53	24.0
1984	1,471	10.3	1,391	10.2	19	5.1	61	15.6
1985	1,529	4.0	1,447	4.0	19	0.9	62	1.8
1986	1,554	1.6	1,473	1.8	18	-1.7	60	-2.3
1987	1,544	0.7	1,462	-0.7	20	6.8	58	-3.4
1988	1,596	3.4	1,500	2.6	29	49.1	62	6.2
1989	1,805	13.1	1,618	7.8	104	258.3	76	22.0
1990	1,953	8.2	1,754	8.4	74	-29.4	115	51.7
1991	2,144	9.8	1,884	7.4	80	8.0	164	43.4
1992	2,417	12.7	2,057	9.2	127	59.9	233	41.9

SOURCE: Health Care Financing Administration, Office of the Actuary.

Liability for services provided in hospital outpatient departments has been of great concern to the Prospective Payment Assessment Commission (ProPAC). The copayment in other settings is 20 percent of costs or payments, whereas the copayment for most hospital-provided outpatient services is 20 percent of charges. This is because payment for these services is not prospective, and costs or payments cannot be computed until the annual Medicare Cost Report for each hospital is settled each year. Hospital charges generally are considerably higher than the costs or payments for outpatient services. Thus, Medicare beneficiaries are responsible for substantially more than 20 percent of costs or payments.

HCFA estimated that beneficiaries were responsible for 40 percent of the payments for ambulatory surgical services in hospital outpatient departments in fiscal year 1992. For radiology services, beneficiary liability was 50 percent of total Medicare reimbursement to hospitals. If these services were provided in other ambulatory settings, liability would be limited to 20 percent of total payments. Therefore, current payment policy produces very different cost sharing requirements for the same services depending on whether they are furnished by hospital outpatient departments or by other providers or suppliers.

Table 4-6. Part B Benefit Payments Per Enrollee, by Type of Service, 1980-1992

Year	Total		Physician		Outpatient	
	Expenditures	Percent Change	Expenditures	Percent Change	Expenditures	Percent Change
1980	$ 385	--	$298	--	$ 67	--
1981	448	16.5%	350	17.4%	79	18.3%
1982	526	17.3	414	18.2	93	18.2
1983	608	15.6	477	15.2	108	16.0
1984	670	10.1	517	8.4	123	13.6
1985	739	10.4	556	7.5	141	14.5
1986	844	14.1	619	11.5	166	18.0
1987	957	13.4	689	11.2	193	15.9
1988	1,056	10.3	748	8.6	214	11.2
1989	1,147	8.6	807	7.9	229	6.6
1990	1,252	9.2	870	7.8	251	10.0
1991	1,345	7.4	916	5.3	278	10.8
1992	1,441	7.1	956	4.2	307	10.5

SOURCE: Health Care Financing Administration, Office of the Actuary.

Table 4-7. Beneficiary Liability for Medicare-Covered Services Per Benefit Period

Benefit	Benefit Period	Beneficiary Out-of-Pocket Requirement
Hospitalization		
Semiprivate room and board, general nursing, and miscellaneous hospital services and supplies.	First 60 days	$676 deductible
	61st to 90th days	$169 daily
	91st to 150th days	$338 daily
	Beyond 150 days	All costs
Skilled nursing facility benefit		
In a facility approved by Medicare. Beneficiary must have been in a hospital for at least three days and enter within 30 days after hospital discharge.	First 20 days	None
	Additional 80 days	Up to $84.50 per day
	Beyond 100 days	All costs
Home health agency benefit		
Medically necessary skilled care, home health aide services, medical supplies, etc.	Part-time or intermittent nursing care and other services for as long as the beneficiary meets criteria for benefits	Nothing for services; 20% of approved amount for durable medical equipment
Hospice care		
Full scope of palliative medical and support services available to terminally ill.	As long as doctor certifies need	Limited cost sharing for outpatient drugs and inpatient respite care
Blood	N/A	First three pints plus 20% of approved amount for additional pints (after $100 deductible)
Medical expense		
Physician's services, inpatient and outpatient medical and surgical services and supplies, physical and speech therapy, diagnostic test, durable medical equipment, etc.	N/A	$100 deductible, plus 20% of approved amount (plus any charge above approved amount)
Clinical laboratory services		
Blood, biopsies, urinalysis, etc.	N/A	Nothing for services
Outpatient hospital treatment		
Reasonable and necessary services for the diagnosis or treatment of an illness or injury.	N/A	Subject to deductible plus 20% of approved amount

Note: N/A = not applicable.

SOURCE: Health Care Financing Administration and National Association of Insurance Commissioners, *1993 Guide to Health Insurance for People with Medicare.*

Table 4-8. Estimated Beneficiary Liabilities, 1980-1992

Year	Total Medicare			Inpatient Hospital		Other Medicare	
	Beneficiary Liability (In Billions)	Total Expenditures (In Billions)	Beneficiary Share of Total Expenditures[a]	Beneficiary Liability (In Billions)	Beneficiary Share	Beneficiary Liability (In Billions)[a]	Beneficiary Share
1980	$10.2	$ 36.5	21.9%	$1.7	6.7%	$ 8.5	41.4%
1981	12.1	43.8	21.6	2.0	6.4	10.0	41.1
1982	14.5	51.2	22.0	2.7	7.3	11.8	40.6
1983	16.2	58.1	21.8	3.2	7.7	13.0	39.1
1984	18.0	65.0	21.8	3.4	7.3	14.7	39.3
1985	19.0	70.2	21.4	3.4	7.0	15.7	38.2
1986	21.0	75.8	21.8	4.1	8.2	17.0	36.7
1987	23.6	81.0	22.7	4.5	8.8	19.0	36.3
1988	27.4	87.0	24.0	4.8	8.9	22.6	37.4
1989	30.0	108.8	23.3	3.6	6.2	26.4	37.2
1990	32.8	108.4	23.2	5.4	8.3	27.4	35.8
1991	34.5	122.5	22.0	5.9	8.2	28.7	33.4
1992[b]	36.7	134.2	21.4	6.3	8.0	30.1	32.9

[a] Medicare Part B premiums are included in total Medicare beneficiary liabilities. Total expenditures are total Medicare expenditures.

[b] Estimates for 1992 are preliminary and subject to change.

SOURCE: Health Care Financing Administration, Office of the Actuary.

SUPPLEMENTAL INSURANCE

The elderly, including Medicare enrollees, can obtain supplemental insurance policies to limit their out-of-pocket spending (see Table 4-9). About one-third purchase medigap policies to cover Medicare's cost sharing requirements and additional services, or buy private insurance if they are not covered by Medicare. Another one-third receive supplemental coverage through their employers, either as current employees or as retirees. Almost 10 percent are also eligible for Medicaid, which covers the Medicare cost sharing requirements and may provide additional benefits.[4]

Table 4-9. Health Insurance Coverage of the Elderly, by Source, 1992 (In Percent)

Source of Coverage	Percent Covered
Total	100.0%
Private	
Employer	33.1
Other	34.7
Public	
Medicare	96.0
Medicaid	9.5
CHAMPUS	3.8
Uninsured	0.9

Note: Individuals may receive coverage from both public and private sources. CHAMPUS = Civilian Health and Medical Programs of the Uniformed Services.

SOURCE: Modified from the Employee Benefit Research Institute *Sources of Health Insurance and Characteristics of the Uninsured*, EBRI Issue Brief 133, January 1993.

Medigap Insurance

Medigap policies cover Medicare's cost sharing requirements and may include benefits in addition to those offered by Medicare. Whether medigap policies adequately protect beneficiaries from out-of-pocket costs has caused concern. Legislation was enacted in 1980 to ensure that these policies offer protection not provided by Medicare. Medigap policies now are regulated under the Baucus Amendment (Section 1882 of Title XVIII of the Social Security Act). This amendment stipulates that medigap policies must cover either all or none of the Part A deductible. Further, all Part B copayments must be covered after the policyholder has paid the Part B deductible for a given year.

Recently, more stringent legislation has been enacted to protect beneficiaries. Under OBRA 1990, loss ratio standards for individual medigap policies were raised from 60 percent to 65 percent.[5] This means that for every dollar an enrollee pays in medigap premiums, at least 65 cents must be paid out in benefits. Medigap policies have also been simplified, so that people can easily compare polices across insurers. These policies must conform to one of 10 standard benefit plans developed

by the National Association of Insurance Commissioners. Each of the standard plans includes a core set of benefits and various combinations of additional benefits (see Table 4-10). The price of the policy varies according to the additional benefits offered and the age of the enrollee. In Ohio, for example, the 1992 annual premium for the minimum package ranged from $340 to $595 for a 65-year-old. The most extensive plans cost between $1,417 and $2,932. [6]

Employer-Sponsored Health Insurance

As health care costs have risen, the proportion of employers sponsoring health insurance has fallen for both active and retired workers. In 1989, 44 percent of all companies offered health benefits. By 1991, this had declined to 40 percent.[7] Of companies that provided health insurance, 57 percent offered health benefits to Medicare-eligible retirees in 1987 compared with 49 percent in 1991.[8]

In 1991 the average annual cost for health care coverage per retiree (including those under age 65) was $2,486—a 9.3 percent increase from 1990.[9]

Table 4-10. Medigap Policies

Benefits Covered
Mandatory
Core benefits*
Part A hospital (days 61-90) copay $169 per day
Lifetime reserve (days 91-150) copay $338 per day
365 life hospital days - 100%
Parts A and B blood
Part B coinsurance - 20%, after $100 deductible has been met
Optional
Additional benefits
Skilled nursing facility coinsurance (days 21-100)
Part A deductible
Part B deductible
Part B excess charges
Foreign travel emergency
At-home recovery
Prescription drugs
Preventive medical care

* Core benefits must be offered by all medigap policies. Core benefits plus combinations of additional benefits may be offered in nine different combinations.

SOURCE: Health Care Financing Administration and National Association of Insurance Commissioners, *1991 Guide to Health Insurance for People with Medicare.*

The average rise in premium payments for family coverage was 14 percent in 1991 and 11.5 percent in 1992.[10] Although this increase in premiums was lower than in previous years, the rate of increase continues to outpace general inflation.[11] Companies that offer retiree health benefits estimate these account for 14.1 percent of their total health insurance costs.

Large employers and unionized companies are more likely than others to offer retiree health insurance.[12] In 1991, only 27 percent of businesses with fewer than 500 workers offered retiree health benefits, compared with over 90 percent of firms having more than 4,000 workers.[13]

Changes to Retiree Benefits—To help control the increase in health care costs, employers are restructuring the health plans they offer to active employees and retirees. In part this is in response to Medicare's secondary payer policies. Initially, Medicare was the primary insurance payer for enrollees with employer-provided health coverage. That is, Medicare was billed first for Medicare-covered services, even if the employer-provided coverage insured the same services. The employer coverage paid some or all of the bill after Medicare paid. During the 1980s, Congress changed the secondary payer provisions so that by the end of the decade, Medicare was the secondary payer for employer-sponsored insurance for all active workers and their spouses. These secondary payer provisions did not apply to retired Medicare enrollees with employer-sponsored health benefits or to firms with fewer than 20 employees. They did apply, however, to self-insured companies. In response to difficulties in collecting private insurance payments under these provisions, Congress in 1991 imposed monetary sanctions on insurance plans that failed to pay their share.[14]

Because Medicare remains the primary payer for retirees 65 and older, some employers have attempted to reduce their health care liability by coordinating retiree benefits with Medicare coverage. Restructuring benefit plans usually results in increased Medicare beneficiary cost sharing. The most generous type of post-retirement health benefit plan, called the coordination of benefits design, generally pays Medicare copayments and deductibles for the retiree and often pays for services not covered by Medicare. The proportion of

all firms offering this type of coverage fell from 26 percent in 1990 to 23 percent in 1991. The proportion of firms offering plans in which the beneficiary is responsible for at least a part of the Medicare copayment and deductible has increased.

Accounting Changes—Employers traditionally accounted for retiree health benefits as they were paid out, rather than when the commitment was made to employees to provide the benefits. Thus, even though these liabilities were direct claims against a firm's assets, they often were not fully acknowledged or reflected in its accounting records. This has raised concerns about the ability of the firm to finance these benefits. In response, the Financial Accounting Standards Board issued new accounting standards which mandate that, starting in 1993, employers reflect future benefit expenses on current accounting records. This means that retiree coverage will have to be accounted for over the duration of each employee's service.

To meet these requirements, a firm can account for the value of promised health benefits either by immediately reducing the value of shareholders' equity or by charging the incurred liability against future earnings. Thus, either reported profits or the net worth of the firm would be reduced. This in turn may affect the firm's credit rating or ability to raise new capital from banks and private investors.

Businesses may also respond to these new standards by reducing commitments to current employees or by choosing not to establish health plans in the future. Currently, retiree health benefits are protected by Federal law only when a company files for bankruptcy. In some instances employers are eliminating retiree health insurance coverage altogether.[15]

Medicaid Coverage

At least 2 million people, or 5 percent of all Medicare beneficiaries, were eligible for Medicaid coverage in fiscal year 1991.[16] State Medicaid programs pay Medicare premiums and copayments for this population. These payments were about $3.14 billion in fiscal year 1991. Medicare beneficiaries qualify for Medicaid if they meet state-established income criteria. In addition, Medicaid pays Medicare premiums and copayments for elderly persons whose income is below the Federal poverty level, and whose resources are no more than twice the Federal standard permitted under the Supplemental Security Income (SSI) program.

In addition to paying premiums and copayments, state Medicaid programs provide other benefits to Medicare enrollees who meet the state eligibility criteria. Each state's Medicaid program is required to cover the following services: hospital inpatient and outpatient; rural health clinic; laboratory and X-ray; nurse practitioner; nursing facility; home health care; early and periodic screening, diagnosis, and treatment; and physician. States may also provide optional benefits, such as podiatry; optometry; dental; physical, speech and hearing, or occupational therapy; prescription drug; dentures; prosthetics; rehabilitative; hospice; and eyeglasses.

USE OF SPECIFIC MEDICAL SERVICES

Certain beneficiary characteristics are associated with greater use of Medicare-covered services: age, Medicaid eligibility, sex, and race. Those using more services are likelier to be older, female (who on average outlive males), eligible for Medicaid, and nonwhite. To the extent that these characteristics are associated with health status, the higher use of services may be appropriate. However, aggregate data like those presented here make it hard to assess this. On the other hand, statistics on service use can be a proxy for access to care. Lower rates for some groups may imply limited access. Conversely, higher rates may suggest overuse.

This section gives a general overview of the types of hospital services (inpatient, outpatient, and emergency room) used by the entire U.S. population broken down by characteristics such as age, race, and income. It then describes the specific types and kinds of services used by Medicare beneficiaries in various age, sex, and racial groups. These data do not show any glaring inequities in treatment patterns; however, much more detailed analyses of patterns of use, correlated with individual health status, would be necessary to draw conclusions about whether the services beneficiaries receive are appropriate.

Overall Use of Hospital Services

In 1987, the last year for which these data are available by health status and income, 10.1 percent of the U.S. population had a hospital inpatient admission (see Table 4-11). In addition, 18.0 percent visited a hospital outpatient department and 15.8 percent visited a hospital emergency room. Rural residents were somewhat more likely than urban residents to have had a hospital admission, possibly because they are slightly older, on average, than people living in urban areas. Urban and rural residents had similar rates of outpatient department and emergency room visits.

The probability of hospitalization rises with age: 17 percent of persons 65 to 74 years old had a hospital stay, compared with nearly 25 percent of those 75 and older. People 65 to 74 years old were the most likely to have visited a hospital outpatient department. Those 75 and older were the age group most likely to have had an emergency room visit (21 percent). Blacks were likeliest to have had an emergency room visit (20 percent), whereas whites more often visited a hospital outpatient department (19 percent). Not surprisingly, people with fair or poor perceived health status were much likelier than those who regarded themselves in better health to have had a health care encounter.

In 1987, 13 percent of the poor and 14 percent of the near-poor had a hospital stay, compared with only 8 percent of high-income persons. The difference in use of emergency room services between poor and non-poor was even more striking. Whereas 20.1 percent and 21.6 percent of the poor and near-poor visited an emergency room, only 12.9 percent of the wealthiest Americans did so.

Use of hospital services varied dramatically by insurance status. Americans with any public health insurance, such as Medicare or Medicaid, were significantly more likely than those with no health insurance to have had an encounter in one of the three sites. Hospital use rates were higher for people who had private health insurance than for those who had no insurance at all. Further, use rates for the elderly with Medicare coverage only were lower than those for the elderly with either Medicaid or supplemental private coverage. For example, 33 percent of Medicare beneficiaries with some type of additional insurance had a hospital outpatient department visit, compared with 25 percent of the elderly with Medicare coverage only. This indicates that lack of insurance is a significant factor affecting the use of hospital services.

Medicare Hospital Inpatient Use

Almost 7 million Medicare beneficiaries, or 19 percent, had at least one hospitalization in 1991 (see Table 4-12). Most hospitalizations were for people between 65 and 74 years old (40.4 percent), the age group that accounts for the majority of the elderly population (58 percent). Beneficiaries over 85 were responsible for 15.5 percent of discharges, although they constitute only 10 percent of the elderly population. Enrollees under 65 were major users, primarily because of their poor health status as indicated by their enrollment due to disability or ESRD.

Fewer than 9 percent of hospitalizations were for the black elderly, who represent 10 percent of the elderly population. By contrast, Medicare beneficiaries who were also eligible for Medicaid accounted for a larger share of hospitalizations than their prevalence in the population.

Different kinds of hospitals treat different populations. This probably reflects their service areas and capabilities (see Table 4-13). Rural hospitals have an older clientele, possibly because rural populations tend to be older. Smaller urban and rural hospitals have higher proportions of discharges age 75 and older.

Major teaching hospitals and disproportionate share hospitals in large urban areas treated a higher proportion of nonwhite beneficiaries. Rural hospitals had a higher proportion of discharges who were dually eligible for Medicare and Medicaid. The proportion of dual-eligibles was even higher for very small rural hospitals.

About 11 percent of Medicare discharges from urban hospitals were rural residents. These could have been rural beneficiaries visiting an urban area, living near an urban area, or traveling to an urban area for the hospitalization. Hospitals in other urban areas had a higher proportion of rural discharges than hospitals in large urban areas. Large urban hospitals had a higher proportion of rural discharges than smaller urban hospitals.

Table 4-11. U.S. Population with Various Hospital Medical Encounters, by Selected Characteristics, 1987 (In Percent)

Characteristic	Type of Visit		
	Inpatient	Outpatient Department	Emergency Room
Total	10.1%	18.0%	15.8%
Urban	9.9	18.0	15.7
Rural	11.1	18.2	16.1
Northeast	10.2	19.8	17.2
Midwest	10.2	19.4	15.3
South	10.6	15.9	15.8
West	8.9	18.1	14.9
Largest SMSA	9.6	18.2	14.9
Other SMSA	9.8	17.9	15.6
Urban, non-SMSA	11.0	17.8	18.1
Rural SMSA	11.1	18.2	16.1
Age			
<18	8.7	11.8	17.2
18-44	8.3	15.9	15.3
45-64	9.8	23.0	13.0
65-74	17.2	32.8	17.0
75+	24.7	29.3	21.4
Sex			
Male	8.2	15.0	15.8
Female	11.9	20.8	15.7
Race			
White, non-Hispanic	10.3	19.0	15.5
Black, non-Hispanic	11.1	17.7	19.7
Hispanic	8.5	11.9	13.5
Other	6.5	11.9	13.7
Income level			
Poor	13.2	17.8	20.1
Near poor	14.1	19.8	21.6
Low income	11.7	17.9	18.6
Middle income	9.7	17.8	14.9
High income	8.0	18.1	12.9
Perceived health status			
Excellent or good	6.3	15.5	13.7
Fair or poor	19.5	32.0	24.5
Insurance			
Under age 65			
Any private	8.2	16.1	14.3
Public	16.0	25.3	25.4
Uninsured	5.4	8.7	12.7
Age 65 and over			
Medicare only	18.6	24.6	16.8
Any public	26.2	28.1	28.6
Any private	19.7	32.7	18.0

Note: SMSA = standard metropolitan statistical area.

SOURCE: National Medical Expenditure Survey, Agency for Health Care Policy and Research, 1987.

Table 4-12. Characteristics of Medicare Beneficiaries with at Least One Hospitalization, 1991

Characteristic	Number of Beneficiaries	Percent
Total	6,707,465	100.0%
Age		
<65	615,760	9.18
65-74	2,710,333	40.41
75-84	2,344,397	34.95
85+	1,036,975	15.46
Sex		
Male	2,959,047	44.12
Female	3,748,418	55.88
Race		
White	5,784,896	86.25
Black	579,808	8.64
Other	146,887	2.19
Dual-eligible		
Yes	835,068	12.45
No	5,872,397	87.55
Residence		
Urban	4,804,797	71.63
Rural	1,861,134	28.05

SOURCE: Health Care Financing Administration, 1991 MedPAR data.

Heart failure and shock was the most common DRG treated, with almost 600,000 Medicare discharges for this condition in 1991 (see Table 4-14). Other commonly treated DRGs were those for simple pneumonia; angina pectoris; cerebrovascular disorders; and DRG 209, which includes total hip replacement.

The most common DRGs do not necessarily account for the highest share of Medicare expenditures (see Table 4-15). In aggregate, Medicare paid the most money for the DRG that includes tracheostomies (often performed to provide ventilator support). The average payment was $76,522 for discharges in this DRG, while total expenditures were about $2.6 billion. The DRG that includes procedures for total and partial hip replacement had the next highest aggregate expenditure, followed by the DRG for heart failure and shock. Several of the other costliest DRGs do not account for a large share of discharges, but entail expensive surgical procedures like coronary artery bypass grafts and percutaneous cardiovascular procedures. Thus, Medicare expenditures are highest for two types of DRGs: those with low volume but high per-case payments and those with high volume but relatively low per-case payments.

Medicare Hospital Outpatient Use

Medicare covered hospital outpatient visits for some 16 million beneficiaries (46 percent) in 1991 (see Table 4-16).[17] Almost half these services were provided to beneficiaries between 65 and 74 years old. Older beneficiaries and the under-65 group, however, used outpatient services disproportionately, given their share of the enrollee population.

The black elderly are slightly less likely to use outpatient department services than expected. While 8.4 percent of the black elderly had at least one outpatient visit, they make up 10 percent of the elderly population. Similarly, 39 percent of persons with outpatient department visits were males, who constitute 40 percent of the elderly population.

Medicare Home Health Agency Use

In 1991, 2.2 million Medicare beneficiaries used home health agency services (see Table 4-17). Sixteen percent of users were nonwhite, even though they made up over 10 percent of the elderly population. Nonwhites also used more services per person than whites. Beneficiaries 85 or older were twice as likely to use services as their numbers suggest. Further, when they did use services, they used more than other age groups. Females used more services per person (46.1) than males (41.6).

In 1990, 92 percent of the 1.8 million beneficiaries who used any home health care used skilled nursing care (see Table 4-18). Home health aide services and physical therapy followed, although they were used by less than half of these beneficiaries.

The average number of visits per user varied widely by type of service. Home health aide service users averaged the greatest number of services per user, at 29.5 a year. For those who used a skilled nursing service, the average number of visits per year was 16.7. Those who used medical social services averaged only two visits per year.

Table 4-13. Characteristics of Medicare Hospital Discharges, by Hospital Group, 1991

Hospital Group	Average Age	Percent			
		Age 75 and Over	White	Dual-Eligibles	Rural
All hospitals	74	45%	86%	14%	29%
Urban	74	44	85	13	11
Rural	75	50	88	18	94
Large urban	74	45	83	13	5
Other urban	73	43	87	12	18
Rural referral	74	46	89	14	94
Sole community	75	52	90	16	94
Other rural	75	52	87	20	94
Major teaching	70	36	74	15	13
Other teaching	73	43	84	11	16
Non-teaching	75	48	86	15	38
Disproportionate share:					
Large urban	72	43	74	19	5
Other urban	72	41	83	16	20
Rural	74	46	77	26	95
Urban <100 beds	75	51	89	18	11
Urban 100-199 beds	74	47	87	14	9
Urban 200-299 beds	74	46	86	12	10
Urban 300-399 beds	73	43	84	12	11
Urban 400-499 beds	73	42	85	11	12
Urban 500+ beds	72	39	81	11	14
Rural <50 beds	77	57	89	21	94
Rural 50-99 beds	75	52	89	20	94
Rural 100-149 beds	75	47	68	17	93
Rural 150-199	74	47	89	15	94
Rural 200+ beds	73	43	86	15	93
Voluntary	74	45	86	12	25
Proprietary	74	46	86	16	27
Urban government	71	39	80	19	16
Rural government	75	52	85	22	95

SOURCE: Health Care Financing Administration, 1991 MedPAR data.

Medicare Skilled Nursing Facility Use

In 1990 almost 530,000 Medicare beneficiaries used SNF services, or about 15 admissions per 1,000 Medicare beneficiaries. Persons with more than one admission accounted for one-third of the admissions. Older beneficiaries were more likely than younger ones to use SNF services (see Table 4-19). Three-quarters of SNF users were over the age of 75, even though they make up only 42.5 percent of the total elderly population. Two-thirds of SNF users were female; this probably reflects the fact that women tend to live longer than men. SNF users tend to be poor, as evidenced by the high proportion (14 percent) who are dually eligible for Medicare and Medicaid. This may be because many of these beneficiaries have high medical expenses, which allows them to spend down their resources to qualify for Medicaid.

Nearly a quarter of Medicare SNF users received care in a hospital-based facility; 69 percent were admitted to free-standing facilities and 7 percent received care in swing-bed hospitals. The average length of the Medicare-covered SNF stay was 26 days. Beneficiaries in rural areas had shorter lengths

Table 4-14. Ten DRGs with the Highest Volume of Cases, 1991

DRG	Title	Discharges	
		Number	Percent
All discharges		10,010,755	100.00%
127	Heart failure and shock	596,080	5.95
89	Simple pneumonia and pleurisy age >17 with cc	371,509	3.71
140	Angina pectoris	332,651	3.32
14	Specific cerebrovascular disorders except TIA	332.614	3.32
209	Major joint and limb reattachment procedures-lower extremity	269,038	2.69
182	Esophagitis, gastroenterological and miscellaneous digestive disorders	254,646	2.54
296	Nutritional and miscellaneous metabolic disorders age >17 with cc	211,210	2.11
138	Cardiac arrhythmia and conduction disorders w/o cc	183,268	1.83
96	Bronchitis and asthma age >17 with cc	176,109	1.76
174	G.I. hemorrhage with cc	164,293	1.64

Note: TIA = transient ischemic attack, cc = complication and/or comorbidity, G.I. = gastrointestinal.

SOURCE: Health Care Financing Administration, 1991 MedPAR data.

of stay than those in urban areas (22.3 days compared with 27.6 days). Beneficiaries in free-standing nursing facilities averaged stays of almost 30 days, compared with fewer than 20 days for those in hospital-based units. Beneficiaries receiving care in swing beds (found only in small rural hospitals) had the shortest stays at 13 days. Beneficiaries in hospital-based facilities appeared to receive more services as evidenced by higher total covered charges and a higher proportion of ancillary charges.

The most common principal diagnoses of Medicare beneficiaries admitted to SNFs in 1990 include hip fracture, stroke, diabetes, and pneumonia. Almost one-quarter had at least four secondary diagnoses.

In 1990, the average length of stay for the qualifying hospitalization was 14 days. Among the most common hospital diagnoses were hip fracture, pneumonia, heart failure, septicemia, and chronic skin ulcers—all diagnoses for which beneficiaries averaged hospital stays of at least 10 days.

Medicare Health Maintenance Organization Enrollment

As of August 1992, almost 2.3 million Medicare beneficiaries were enrolled in HMOs (see Table 4-20). Those most likely to enroll in HMOs are older than the general Medicare population.

Table 4-15. Ten DRGs with the Highest Medicare Reimbursement, 1991

DRG	Title	Reimbursement		Rank	
		Total (In Thousands)	Percent	Volume	DRG Weight
483	Tracheostomy except mouth, larynx or throat disorder	$2,576,403	4.64%	69	2
209	Major joint and limb reattachment procedures	2,464,151	4.44	5	58
127	Heart failure and shock	2,198,891	3.96	1	190
148	Major small and large bowel procedures with cc	1,883,325	3.39	14	31
106	Coronary bypass with cardiac catheterization	1,832,414	3.30	33	10
89	Simple pneumonia and pleurisy age >17 with cc	1,559,140	2.81	2	50
14	Specific cerebrovascular disorders except TIA	1,543,282	2.78	4	41
107	Coronary bypass without cardiac catheterization	1,185,699	2.14	50	12
475	Respiratory system diagnosis with ventilator support	1,174,826	2.12	34	23
112	Percutaneous cardiovascular procedures	1,124,871	2.03	18	75

Note: Includes all discharges with a reimbursement amount greater than 0. Reimbursement amount = total DRG payments and disproportionate share payments, indirect medical education payments, and human organ passthrough payments. TIA = transient ischemic attack, cc = complication and/or comorbidity.

SOURCE: Health Care Financing Administration, 1991 MedPAR and PPS 7 Medicare Cost Report Data.

Table 4-16. Characteristics of Medicare Beneficiaries with at Least One Hospital Outpatient Encounter, 1991

Characteristic	Number of Beneficiaries	Percent
Total	16,157,420	100.0%
Age		
<65	1,569,240	9.7
65-74	7,513,760	46.5
75-84	5,245,800	32.5
85+	1,828,620	11.3
Sex		
Male	6,296,080	39.0
Female	9,858,000	61.0
Race		
White	13,935,780	86.3
Black	1,348,460	8.4
Other	373,000	2.3
Dual-eligible		
Yes	2,042,600	12.6
No	14,114,820	87.4
Residence		
Urban	11,363,580	70.3
Rural	4,748,000	29.4

SOURCE: Health Care Financing Administration, 1991 Hospital Outpatient bill data.

Recent studies have concluded that Medicare HMO enrollees are healthier and have fewer functional impairments than those who remain under fee-for-service arrangements.[18] They are also likelier to face financial barriers to care, tending to have lower incomes and no supplemental coverage. In a demonstration project sponsored by the Health Care Financing Administration, Medicare HMO enrollees were more likely to lack a usual source of care prior to entering the HMO. They were also more likely to live in areas with greater HMO market penetration and where the HMO premiums were competitively priced.

Medicare beneficiaries enrolled in HMOs tended to be less satisfied than fee-for-service beneficiaries with the professional competence of their providers and the willingness of staff to discuss their problems with them. However, they were more satisfied than their fee-for-service counterparts with waiting times to receive care and the reduced level of paperwork involved in claims processing.[19]

Table 4-17. Characteristics of Medicare Beneficiaries Using Home Health Agency Services, 1991

Characteristic	Beneficiaries		Average Number of Visits Per User
	Number (In Thousands)	Percent	
Total	2,242.9	100%	44.5
Age			
<65	136.0	6	51.8
65-74	661.7	30	40.0
75-84	941.4	42	44.4
85+	503.8	22	48.6
Sex			
Male	801.5	36	41.6
Female	1,441.4	64	46.1
Race			
White	1,890.3	84	42.8
Other	352.6	16	53.6

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy.

Earlier research investigated why Medicare beneficiaries disenroll from HMO plans.[20] The most commonly cited reason was a misunderstanding regarding whether beneficiaries could keep their current physicians. Many beneficiaries who disenrolled had to change physicians to participate in the HMO, but did not understand this before joining. Reasons for disenrolling varied by length of time in the program. Those who left the program within three months did so because the plan was too expensive, particular services were not available, waiting times were long at the place of care, or the

Table 4-18. Home Health Use, by Type of Service, 1990

Service	Beneficiaries with at Least One Visit	Average Number of Visits Per User
Total	100%	32.0
Skilled nursing	92	16.7
Physical therapy	31	10.1
Speech	2	11.5
Occupational therapy	6	6.9
Medical social services	14	2.0
Home health aide	43	29.5
Other home health services	1	8.2

SOURCE: ProPAC analysis of 1990 Home Health Agency Skeleton Records.

Table 4-19. Characteristics of Medicare Beneficiaries Using Skilled Nursing Facility Services, 1990

Characteristic	Number (In Thousands)	Percent
Total	529.6	100.0%
Age		
<65	18.4	3.5
65-74	109.0	20.6
75-84	225.3	42.6
85+	176.9	33.4
Sex		
Male	174.0	32.9
Female	355.6	67.1
Residence		
Rural	152.8	28.9
Urban	376.8	71.1

SOURCE: ProPAC analysis of Skilled Nursing Facility MedPAR file, 1990.

plan offered an unsuitable choice of physicians. Beneficiaries who left after three months did so because the HMO was inconveniently located or provided poor medical care, because their physician left, or because they could not use one physician consistently.

URBAN AND RURAL EPISODES OF CARE FOR SIX CONDITIONS

Beneficiaries often use a range of services in the course of an illness, or episode of care. Variations in these patterns of care may reflect different physician treatment approaches, availability of services, or other factors. These, in turn, may affect the beneficiaries' health outcomes, additional service use, or costs. The Prospective Payment Assessment Commission has begun to document these variations through patterns of care analyses. Because some services are often substitutes or replacements for others, examining health care utilization across providers and over time is a more effective way to identify potential access or quality problems for groups of beneficiaries than examining discrete service use separately by site.

Previous analyses have indicated that, for the same condition, care in rural hospitals is less expensive than care provided in urban hospitals.[21] These analyses did not examine service use before and after the hospital stay, however, which may explain the less resource-intensive and less costly rural hospitalizations. The analysis described here expands on earlier work by including more diagnoses and other services provided throughout an episode of care. In so doing, it permits examining whether other services, such as SNF or ambulatory care, are substituted for hospital care and whether total episode costs are comparable. In addition, analysis of episodes permits comparing readmission and transfer rates, which may provide further insight into the quality and appropriateness of care delivered in different types of hospitals.

This study first looked at how conditions within the same DRG were distributed in rural and urban hospitals. For cases in the same DRG, variations in case complexity may help explain why urban hospitalizations are costlier than rural ones. Since each

Table 4-20. Characteristics of Medicare Enrollees in HMOs, 1992

Characteristic	Number of HMO Users (In Thousands)	Total	Number of Medicare Enrollees (In Thousands)	Total
Total	2,293	100%	35,419	100%
Sex				
Female	1,316	57	20,409	58
Male	978	43	15,010	42
Age				
<65	95	4	3,453	10
65-74	485	21	8,871	25
75-79	661	29	8,512	24
80-84	509	22	6,425	18
85+	564	25	8,157	23

SOURCE: Health Care Financing Administration, Office of Prepaid Health Care.

DRG includes many different conditions and procedures, it may be that urban cases represent more complex or resource-intensive conditions. However, the analysis found no major differences in the distribution of conditions within the DRGs analyzed.

To refine the analysis, specific conditions within the DRGs were selected. Using 1988 data, health service use by Medicare beneficiaries hospitalized for one of six prevalent conditions was examined. Medical and surgical conditions were chosen that could be treated similarly in urban and rural hospitals. Special consideration was given to ensuring that rural hospitals treated a sufficient number of cases with these conditions to permit valid comparisons with urban hospitalizations. The conditions are pneumonococcal pneumonia, circulatory disorders with acute myocardial infarction (AMI), congestive heart failure and shock, esophagitis, osteoarthritis of the left leg, and staphylococcal septicemia. All care 60 days before and 90 days after the hospitalization for the chosen condition (called the "central hospitalization") was examined. This permitted analysis of care provided in other settings that may have substituted for inpatient services.

For each condition, beneficiaries hospitalized in urban facilities used more hospital days throughout the episode (see Table 4-21).[22] This was due to longer stays during the central hospitalization. Episode costs for persons admitted to urban hospitals were also higher. Regardless of the condition, urban hospitalizations cost more in virtually all the cost centers studied, including accommodations, supplies, and pharmacy.

Beneficiaries admitted to rural facilities for their central hospitalization were more likely to be readmitted or transferred to another hospital (see Table 4-22). In general, the readmissions were far likelier to be to rural hospitals than to urban facilities. For example, 53 percent of beneficiaries admitted to rural hospitals for circulatory disorders with AMI were readmitted, compared with 46 percent of those admitted to urban hospitals. Almost a quarter of admissions to rural hospitals for this condition resulted in a readmission to an urban hospital. Rural hospitals were also more likely to transfer their patients following an admission, although this number is large only for circulatory disorders with AMI. For the other five conditions, fewer than 4 percent of rural admissions resulted in a transfer.

Even though beneficiaries were readmitted or transferred more often, rural episodes of care were still less expensive than episodes initiated in urban hospitals. The costs of a rural episode that required a readmission or transfer, even to an urban hospital, were considered as costs associated with an initial rural hospitalization. Despite including transfers or readmissions to urban hospitals, average episode costs were still lower than they would have been had the episode begun in an urban hospital.

The study also looked at whether post-acute services may have substituted for hospital care. In four of the six conditions studied, persons with a central hospitalization in very small rural hospitals or sole community hospitals were significantly more likely to have used SNF services after being hospitalized. Greater use of SNF services could be because small rural hospitals are the only group with swing-bed capacity. Additionally, the rural population included in the analysis is older than the urban population, and age is positively associated with the use of SNF services.

For all conditions except septicemia, persons initially hospitalized in an urban facility were more likely to have used home health services. For those who used SNF or home health services, usage rates were similar across urban and rural episodes. Higher use of home health services in urban episodes may reflect their greater supply in urban areas.

For three of the conditions, persons initially admitted to urban hospitals had slightly higher mortality rates (see Table 4-23). Rural episodes had a higher percentage of persons who died during a hospitalization that occurred after the central hospitalization for circulatory disorders with AMI, pneumonococcal pneumonia, or septicemia. These minor contradictory results do not indicate dissimilarities in the quality of care provided in urban and rural hospital episodes or differences in patient severity.

This analysis indicates that, for the same condition, rural episodes had lower costs and shorter hospital lengths of stay than urban episodes. However, outcomes for these conditions were not noticeably different. Beneficiaries admitted to rural hospitals

Table 4-21. Average Length of Stay for Short-Stay Hospitalizations for Urban and Rural Episodes of Care, 1988

Condition	Number of Hospitalizations			Length of Stay (Days)					
				Total		Central Hospitalization		After Central Hospitalization	
	Total	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Pneumococcal pneumonia	7,503	5,168	2,335	14.6	13.3	9.5	8.0	3.0	3.2
Circulatory disorders with AMI	12,733	25,307	12,359	19.3	17.3	11.8	9.7	6.1	6.5
Congestive heart failure and shock	47,666	35,307	12,359	17.1	14.6	8.3	6.8	5.3	4.8
Esophagitis	19,723	14,520	5,203	11.8	10.8	7.2	6.3	3.1	3.1
Major joint and limb reattachment	14,597	11,810	2,787	13.0	12.3	11.5	10.5	1.2	1.5
Staphylococcal septicemia	6,073	1,209	4,864	25.2	20.2	14.0	10.3	5.3	5.1

Note: AMI = acute myocardial infarction.

SOURCE: ProPAC analysis of selected Medicare files.

had more readmissions than those admitted to urban hospitals. They were also more likely to be transferred, which may reflect appropriate triaging of care. The rate of transfer was highest for beneficiaries with AMI, a condition that often requires the technology found primarily in urban hospitals. Further analyses are needed to determine if transfers and readmissions are appropriate. In addition, it is impossible to tell from this study whether mortality rates in urban hospitals were higher for several conditions because more severely ill rural patients went directly to these hospitals.

CONCLUSIONS

Medicare beneficiaries have been affected by the continued growth in health care expenditures directly through higher payments and indirectly by efforts to control costs. Although beneficiary out-of-pocket spending has not increased as a proportion of total Medicare expenditures, it has grown more rapidly than inflation and household incomes. In addition, beneficiaries must pay considerably more out of pocket for services received in some settings, such as hospital outpatient departments, than for those delivered elsewhere.

Cost containment measures have attempted to shift payments to individuals and reduce utilization or change use patterns. Many of these efforts have focused on Medicare beneficiaries. To control their liability for health insurance, some employers have reduced or eliminated supplemental coverage for Medicare-eligible retirees. Others have redesigned retiree plans to incorporate more beneficiary cost sharing. Medicare facility pay-

Table 4-22. Use of Services After the Central Hospitalization During Episodes of Care, 1988 (In Percent)

Condition	Hospital Readmissions				Service Use Following Central Hospitalization			
	To Urban From:		To Rural From:		Skilled Nursing Facility		Home Health Agency	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Pneumococcal pneumonia	24.3%	4.5%	0.7%	25.4%	6.1%	6.4%	15.9%	13.2%
Circulatory disorders with AMI	44.9	23.8	1.8	29.4	4.3	6.4	25.0	19.0
Congestive heart failure and shock	39.1	6.9	0.7	34.7	4.2	5.2	23.8	20.1
Esophagitis	24.8	4.2	0.5	23.2	2.7	3.1	12.3	11.1
Major joint and limb reattachment	11.7	0.8	0.6	14.7	8.8	14.6	40.4	33.3
Staphylococcal septicemia	32.6	6.5	0.5	28.1	13.2	10.5	17.6	18.0

Note: AMI = acute myocardial infarction.

SOURCE: ProPAC analysis of selected Medicare files.

Table 4-23. Mortality During Urban and Rural Episodes of Care, 1988 (In Percent)

Condition	Hospital Deaths				Death During Episode, Not in Hospital	
	During Central Hospitalization		After Central Hospitalization			
	Urban	Rural	Urban	Rural	Urban	Rural
Pneumococcal pneumonia	9.5%	7.7%	3.6%	5.1%	6.9%	7.8%
Circulatory disorders with AMI	1.4	2.2	8.7	10.0	9.1	9.6
Congestive heart failure and shock	9.2	8.2	7.1	7.4	8.3	8.9
Esophagitis	2.0	1.7	2.3	2.6	2.5	2.8
Major joint and limb reattachment	0.4	0.3	0.2	0.4	0.3	0.4
Staphylococcal septicemia	22.8	20.0	6.2	7.9	12.6	9.8

Note: AMI = acute myocardial infarction.

SOURCE: ProPAC analysis of selected Medicare files.

ment policies have contributed to shorter inpatient lengths of stay. These trends, as well as other factors such as changes in technology and practice patterns, have shifted some health care from the hospital inpatient to less intensive treatment settings. This shift is in part demonstrated by the large increases in Medicare expenditures for SNF, home health agency, and hospital outpatient services.

Because of potential restrictions on service use caused by expenditure control measures, the Medicare program must improve its efforts to monitor access to care and the quality of that care, particularly for its most vulnerable populations. Comparisons of utilization patterns across beneficiaries and providers can be useful in indicating potential access problems. The aggregate statistics presented here do not raise any concerns about access. Groups of beneficiaries who would be expected to need the most health care services, in particular the very old and the disabled, received more. These figures, however, cannot indicate whether the people within each group who need particular services are actually getting them.

Episodes of care analyses add depth to the understanding of access and quality of care. Examining all services provided to treat a particular illness or condition and relating service patterns to outcomes permit better assessments of appropriateness and need. ProPAC's comparison of episodes of care for beneficiaries admitted to urban and rural hospitals indicated that treatment patterns differ depending on what type of hospital was used for the initial admission. Length of stay was shorter in rural hospitals, although there was a slightly greater probability of a readmission following a rural hospitalization for the conditions studied. Further, post-acute service use differed between those with an urban or rural admission. Mortality, however, was similar for urban and rural episodes.

ProPAC will continue to monitor and evaluate service access and the quality of the health care Medicare enrollees receive. Future episodes of care analyses will focus on how post-acute care services complement and substitute for each other and how treatment differs across types of providers. Efforts to assess the distribution and adequacy of service delivery need to be maintained as Medicare, other payers, and Federal and state governments struggle to reduce the burden of climbing health care expenditures.

Notes to Chapter 4

1. To qualify for Medicare, disabled persons must have been receiving Social Security cash disability benefits for at least 24 months, or have ESRD and be a Social Security beneficiary, or be the dependent spouse or child of such a beneficiary or of an insured worker.

2. The figures in this chapter reflect estimates made at the time of the President's budget proposal to Congress in January 1993. Figures are on an accrual basis, meaning that they represent the budgeted amount that providers have billed for, but not necessarily what has been paid out. On a cash-disbursement basis (money that has actually been sent to providers), an estimated $133 billion was paid in 1992.

3. Physicians who do not accept Medicare assignment may charge up to 115 percent of 80 percent of allowed Medicare charges to the beneficiary in addition to payment received from Medicare. Physicians who accept Medicare assignment receive the Medicare-allowed payment as payment in full and may not charge the beneficiary any additional amount.

4. In addition, of approximately 8 million persons 65 and older who are veterans, about 400,000 received inpatient care at the Department of Veterans Affairs hospitals. Department of Veterans Affairs, *Annual Report of the Secretary of Veterans Affairs; Fiscal Year 1990* (Washington, DC: Department of Veterans Affairs, 1991) S-1, S-40.

5. OBRA 1990 also mandated that the loss ratio for group medigap policies must exceed 75 percent.

6. Ohio Department of Insurance, *Ohio's Shopper's Guide to Medicare Supplement Insurance*, (Columbus, OH: Ohio Department of Insurance, 1992) 11, 12.

7. Cynthia Sullivan, Marianne Miller, and Claudia Johnson, *Employer Sponsored Health Insurance in 1991* (Washington, DC: HIAA, 1992) 4.

8. Foster Higgins, *Health Care Benefits Survey 1991*, Report 4, Retiree Health Benefits (Princeton, NJ: A. Foster Higgins & Co., Inc., 1992) 5.

9. Ibid., 7.

10. Sullivan, Miller, and Johnson, *Employer Spousored Health Insurance*, 1; and KPMG Peat Marwick, *Health Benefits in 1992* (Washington, DC: KPMG Peat Marwick, 1993) 5.

11. For example, in 1989 the average premium increase was 24 percent; in 1990, it was 16 percent.

12. Health Insurance Association of America, *Providing Employee Health Benefits: How Firms Differ* (Washington, DC: HIAA, 1990); and Foster Higgins, *Health Care Benefits Survey 1991*.

13. Foster Higgins, *Health Care Benefits Survey 1991*.

14. Health Care Financing Administration, "Changes to Medicare Secondary Payer (MSP) Provisions," 56 Federal Register 1200 (January 11, 1991); and General Accounting Office, *Over $1 Billion Should Be Recovered from Primary Health Insurance* (Washington, DC: GAO, 1992).

15. Gazimer J. Patelsky, retiree of McDonnell Douglas, and Herman Fasching, retiree of Unisys Corporation, "Retiree Health Benefits: the Impact on Workers and Businesses," in testimony before the Subcommittee on Labor, Committee on Labor and Human Resources, U.S. Senate, Washington, DC, March 2, 1993.

16. The percentages of dual-eligibles cited in the text and Table 4-9 differ. The text figure is based on 96 percent of the elderly population with Medicare coverage, whereas the table is based on the entire elderly population.

17. The numbers cited in the text and Table 4-11 differ because of the years examined (1991 versus 1987) and because of the definition of an outpatient visit. Medicare in 1991 defined someone as having used outpatient services if the person had any outpatient bills. In the National Medical Expenditure Survey, outpatient visits were self-reported by survey respondents.

18. Jerrold Hill and Randall Brown, *Health Status, Financial Barriers, and the Decision to Enroll in Medicare Risk Plans* (Washington, DC: Mathematica Policy Research, Inc., June 1992).

19. Ibid.

20. Louis F. Rossiter and others, "Patient Satisfaction Among Elderly Enrollees and Disenrollees in Medicare Health Maintenance Organizations," *Journal of the American Medical Association* 262(1):57-63, July 1989.

21. Prospective Payment Assessment Commission, *Medicare and the American Health Care System, Report to the Congress*, June 1992 (Washington, DC: ProPAC, 1992).

22. Only differences that are statistically significant at the $p<0.05$ level are reported here. Some differences shown on the tables, therefore, are not statistically significant.

Chapter 5

State Variation in Health Care Financing and Delivery

Chapter 5

State Variation in Health Care Financing and Delivery

Medicare is a national health care program with uniform benefits and eligibility requirements. It operates, however, in a pluralistic delivery system of more than 600,000 physicians and 6,000 hospitals, as well as numerous other medical practitioners and facilities. The people served by America's health care system are highly diverse in terms of wealth, age, and health status; their health care is financed by numerous public and private payers. Further, the health policy and regulatory environment is unique in each state. All these factors affect both access to services and the utilization and cost of health care.

Despite Medicare's national orientation, health care spending for Medicare beneficiaries at the state level varies widely (see Table 5-1). In fiscal year 1991, the estimated average total Medicare benefit payments per enrollee ranged from a high of almost $4,700 in the District of Columbia to a low of about $2,150 in Hawaii; the national average was $3,320. In most states, average payments for Part A services were about 50 percent more than Part B payments. In Minnesota, however, Medicare payments for Part A services were over twice as large as Part B payments, while in Florida, payments for both Part A and Part B services were about equal.

The variation in Medicare payments across states is caused, in part, by Medicare policies that are designed to recognize local cost differences.[1] The variation may also result from diverse medical practice patterns, population characteristics, availability of health services, and state regulatory environments. Examining how states differ is one means of understanding the heterogenous environment in which the Medicare program operates.[2] It may also provide valuable insights for evaluating national health care reform proposals. This chapter first describes variation in state health care expenditures, looking specifically at hospital costs and payments. It then describes possible reasons for these differences, such as population characteristics, health insurance coverage, health services supply and utilization, and state health care policy and regulatory environments. Finally, the chapter focuses on several states that have enacted multifaceted legislation to reform their health care systems.

This chapter is descriptive in nature. It illustrates the magnitude of variation across states. The information presented is an initial step in a series of analyses by the Prospective Payment Assessment Commission (ProPAC) that will look at differences in health care spending and the factors associated with these differences. Future ProPAC research will include calculating state per capita health expenditures for the Medicare population and identifying factors related to variations in spending across states.[3] Understanding these factors is necessary to develop national health financing policies that recognize appropriate state differences.

VARIATION IN STATE HEALTH CARE EXPENDITURES

Health care expenditures per person vary considerably across states. Although the Health Care Financing Administration (HCFA) calculated these expenditures by state in 1982, more recent data are not available. There are data, however, on one of the key components of health spending: provider cost per unit of output. This section focuses on hospitals and begins by exploring state variation in hospital cost per case. In a previous study, ProPAC found that nursing facility costs also vary across states. In 1989, the average total Medicare cost per day in skilled nursing facilities, adjusted for differences in wages and capital costs, ranged from $92 in Michigan to $176 in Kansas.[4]

Hospital Costs Per Case

Comparing the costliness of providers by state is difficult because of substantial geographic

Table 5-1. Estimated Medicare Benefit Payments Per Enrollee, by State, Fiscal Year 1991

State	Total	Part A (In Percent)	Part B (In Percent)
U.S. total	$3,320	61%	41%
Hawaii	2,152	58	46
Oregon	2,295	61	41
Minnesota	2,430	69	32
Idaho	2,446	61	41
South Dakota	2,529	63	38
Utah	2,533	64	38
Vermont	2,533	64	38
Nebraska	2,546	61	41
South Carolina	2,566	60	43
New Mexico	2,636	61	42
Maine	2,686	61	41
Iowa	2,700	62	40
Colorado	2,710	64	38
North Carolina	2,733	62	40
New Hampshire	2,733	63	39
Montana	2,762	65	37
Wisconsin	2,768	63	38
Washington	2,790	59	43
North Dakota	2,831	63	38
Wyoming	2,839	65	37
West Virginia	2,921	64	38
Mississippi	2,989	64	38
Virginia	3,039	62	41
Arkansas	3,043	61	41
Nevada	3,045	55	48
Kansas	3,055	59	43
Indiana	3,087	64	38
Oklahoma	3,122	63	38
Rhode Island	3,147	60	42
Kentucky	3,189	64	38
Arizona	3,193	56	46
Tennessee	3,272	64	37
Missouri	3,276	64	38
Georgia	3,318	60	42
New Jersey	3,326	59	44
Delaware	3,344	61	41
Texas	3,371	60	42
Alaska	3,375	63	40
Florida	3,381	51	51
Connecticut	3,387	59	43
California	3,406	59	44
Illinois	3,424	64	39
Alabama	3,443	64	39
Ohio	3,646	63	39
Michigan	3,679	59	43
Massachusetts	3,738	63	39
Pennsylvania	3,803	62	39
New York	3,932	64	40
Maryland	4,040	62	41
Louisiana	4,061	63	40
District of Columbia	4,698	63	44

Note: Estimates are based on trust fund disbursements. Percentages may not add to 100 due to rounding of underlying amounts.

SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy.

differences in the prices of the inputs, such as wages and utilities, used in producing health care. In addition, patients may cross state lines to obtain specialty care, which could raise the average case complexity and thus the unit costs of the receiving states. For inpatient hospital care provided to Medicare patients, however, costs can be standardized by geographic price differentials and case complexity to produce a reasonably comparable measure of average cost per case by state. This standardizing is done by dividing each hospital's labor costs by its Medicare wage index and each hospital's total costs by its Medicare case-mix index.

Even after accounting for wage differentials and case mix, the lowest cost state in 1991—Idaho—was still nearly one-fifth below the national average at $3,689 per discharge (see Table 5-2). The 10 states with the lowest per-case costs are primarily rural and located west of the Mississippi River. Their low costs may reflect the below average lengths of stay found in most western states. Not all rural states, however, have low standardized Medicare costs. For instance, southern states, which are largely rural, generally have lower than average wages. After controlling for wage differences, however, the cost of care in the South was found to be above average.

The highest cost state—Hawaii—was one-third above the national average in 1991, at $6,043 per discharge. This contrasts with the low amount of total spending per Medicare beneficiary in Hawaii because the high per-case hospital costs are offset by low hospital admission rates and by lower than average levels of Medicare spending for other services. Hawaii's per-case hospital costs are high partly because all its hospitals are located where above average costs would be expected—in a large urban area or in isolated rural areas (the outer islands). The second highest—the District of Columbia—is also unique because it is a large city and has a high proportion of tertiary care facilities serving residents in Maryland and Virginia. The next five highest cost states are located either along the urbanized East Coast (Connecticut, Delaware, and New Jersey) or in the South (Louisiana and South Carolina).

Hospital Gains and Losses by Payer Group

In aggregate, the trend in payers' per-case expenditures closely follows the trend in costs.

Table 5-2. Standardized Medicare Hospital Inpatient Cost Per Discharge, by State, Eighth Year of PPS

State	Cost Per Discharge
U.S. total	$4,516
Idaho	3,689
Utah	3,773
Oregon	3,786
New Mexico	3,842
Minnesota	3,986
Montana	4,035
Washington	4,036
North Dakota	4,085
Wisconsin	4,123
Iowa	4,125
South Dakota	4,126
Mississippi	4,139
Rhode Island	4,143
Oklahoma	4,176
Kansas	4,187
Arkansas	4,284
Colorado	4,292
Arizona	4,308
Kentucky	4,389
Nebraska	4,392
Massachusetts	4,393
West Virginia	4,399
North Carolina	4,426
Alabama	4,450
Nevada	4,474
Missouri	4,492
California	4,493
Tennessee	4,507
Maryland	4,509
Georgia	4,532
Michigan	4,539
Virginia	4,564
Florida	4,565
Texas	4,592
Vermont	4,594
Pennsylvania	4,595
New York	4,598
Illinois	4,625
Maine	4,661
Indiana	4,675
Ohio	4,695
Wyoming	4,762
Alaska	4,781
New Hampshire	4,832
Delaware	4,843
Louisiana	4,882
South Carolina	4,935
Connecticut	4,937
New Jersey	4,986
District of Columbia	5,738
Hawaii	6,043

Note: Medicare inpatient costs (excluding direct medical education expenses) standardized for input price differences using Medicare wage index data and for case complexity differences using Medicare case-mix index data. Includes PPS hospitals only.

SOURCE: ProPAC analysis based on Medicare Cost Report data from the Health Care Financing Administration.

Nonetheless, the relationship between the cost of hospital care and the payments made for that care varies substantially by payer, and this pattern differs by state.

As discussed in Chapter 1, hospitals have relied heavily on cost shifting to private insurers to cover other losses. These losses are caused primarily by hospital costs exceeding payments for services provided to Medicare and Medicaid patients, and by uncompensated care that is not covered by operating subsidies from state and local governments. Both the amount of revenue obtained through cost shifting and the composition of losses funded in this way vary considerably across states (see Table 5-3).

Table 5-3 ranks the states on a measure comparing payments received from private insurers to the cost of treating privately insured patients. The lower this ratio, the less reliant hospitals have been on cost shifting. Three other ratios shed light on the losses that excess payments in the private sector are being used to cover: payment to cost ratios for Medicaid and Medicare, and the amount of uncompensated care (net of state and local government subsidies) relative to total costs.

Interpretation of these data is subject to several caveats. First, the amount of cost shifting in each state depends on the extent to which hospitals contain their costs. Second, cost and payment levels, net uncompensated care, and the proportion of patients covered by different payers contribute to the amount of losses to be covered, and thus result in the payment to cost ratios shown. Finally, non-patient income, which is not addressed in this analysis, also affects hospitals' need for and reliance on cost shifting. Nationally, non-patient care income accounts for about 5 percent of hospital net revenue.

Three of the four states with the least cost shifting in 1991 regulated payment rates for hospitals—Maryland, New Jersey, and New York. This reflects the fact that equity among payers is often an intended goal of rate setting systems. Maryland had the most consistent payment levels across payers, but New York still had the least amount of cost shifting overall because its uncompensated care burden is considerably lower. This is because a much greater share of New York's gross uncompensated care costs is covered by local government

Table 5-3. Hospital Payments by Source, by State Averages, 1991 (In Percent)

State	Payments as a Percentage of Costs			Uncompensated Care Losses as a Percentage of Total Costs
	Private Insurers	Medicare	Medicaid	
U.S. total	130%	88%	82%	4.8%
New York	107	95	89	3.5
Maryland	108	108	107	7.1
Rhode Island	108	99	91	3.3
New Jersey	111	98	119	8.9
Wyoming	111	86	94	3.1
Minnesota	114	92	84	1.9
Michigan	118	90	85	2.7
Massachusetts	120	94	89	5.8
Wisconsin	123	94	77	2.8
Arizona	124	94	80	4.0
Utah	124	87	88	3.5
North Dakota	124	88	96	2.2
Washington	124	100	82	3.3
Pennsylvania	126	90	74	2.7
Iowa	126	88	92	1.5
Oregon	126	96	65	5.3
District of Columbia	126	89	80	6.6
Ohio	128	87	90	4.0
Vermont	129	90	86	4.3
Kansas	130	88	82	3.5
Colorado	133	89	78	4.6
New Mexico	134	93	86	7.2
South Dakota	134	88	86	2.8
California	134	88	67	3.9
Montana	135	91	87	3.7
Maine	135	82	87	5.2
Indiana	136	85	99	4.8
Idaho	136	91	77	4.2
Missouri	137	87	77	5.3
Illinois	137	86	56	3.4
Nebraska	138	83	73	2.3
New Hampshire	138	83	90	5.8
Kentucky	138	90	99	4.9
Oklahoma	139	87	92	6.0
Texas	140	87	76	7.4
Connecticut	141	83	65	4.8
Virginia	142	90	73	6.2
Alabama	142	94	76	7.5
Georgia	142	87	88	7.5
West Virginia	142	90	85	7.3
Tennessee	143	87	82	6.1
Louisiana	144	87	87	3.8
North Carolina	145	89	85	5.8
Florida	146	84	82	7.7
Nevada	152	86	60	9.0
South Carolina	152	84	103	7.1
Mississippi	155	94	108	9.9
Arkansas	158	94	63	9.3

Note: In the first three columns, the payment received from each payer is shown as a percent of the cost of treating its patients. Uncompensated care losses (net of operating subsidies from state and local governments) are shown as a percent of costs across all payers. Alaska, Delaware, and Hawaii omitted due to insufficient data being available.

SOURCE: ProPAC analysis of Annual Survey data from the American Hospital Association.

subsidies. The next two states on the scale—Rhode Island and New Jersey—both had unusually high Medicare payment to cost ratios. Rhode Island was also helped by a low uncompensated care burden, whereas New Jersey's performance was driven by the highest relative Medicaid payments in the country—119 percent of costs—which generate funds to cover one of the highest levels of uncompensated care.

Of the 12 states relying most on cost shifting, all but Nevada are in the South or in Appalachia. The uncompensated care burden for 11 of these states was at least 20 percent above the national average. Louisiana, the exception, had uncompensated care costs lower than the national average only because it covered a significant portion of these costs with state operating subsidies. Of the four states relying most on cost shifting, Arkansas and Nevada had low Medicaid payments relative to costs, while South Carolina had below average Medicare payments. This low Medicare payment to cost ratio appears to be explained at least partly by the fact that after controlling for wage levels and case mix, Medicare hospital costs in South Carolina are among the nation's highest (see Table 5-2).

POPULATION CHARACTERISTICS

Health care expenditures are affected by the demand for health services. The demand and utilization of health care services in a state are affected by its population's characteristics, including age, health status, wealth, and health insurance coverage. The combination of these factors influences the need for health services and the availability of associated resources which, in turn, affect a state population's health service use.

State Demographic Characteristics

The availability of health care resources is related to a state's population; more densely populated areas tend to have greater service concentration. In 1991, state populations ranged from fewer than 500,000 people in Wyoming to more than 30 million in California. About 25 percent of U.S. residents lived in rural areas, which are less densely populated and often have fewer health services.

The need for health services and the types of services used vary by the age of a state's residents. States with older populations have a greater need for services oriented toward chronic conditions than those with younger residents. Although the number of elderly persons has been increasing nationally in absolute terms and as a proportion of the total U.S. population, the percentage of residents 65 and older varies extensively among the states. Florida has the most residents over 65 years of age (18 percent), followed by Pennsylvania (16 percent) and Iowa (15 percent).

A state's wealth (or lack thereof) is associated with the proportion of the population that needs state financial assistance to obtain health care and with the state's ability to provide that assistance. The proportion of state residents below the Federal poverty level is one way to identify the need for assistance.[5] Those states with the greatest percentage of people below the Federal poverty level in 1989 were Mississippi (25.2 percent), Louisiana (23.6 percent), and New Mexico (20.6 percent). By contrast, Connecticut and New Hampshire had less than 7 percent of their populations below the Federal poverty level (see Table 5-4).

Per capita income is another measure of a state's wealth, as it reflects the population's general purchasing power and its ability to support publicly funded health care assistance. Many states with a large proportion of residents below the Federal poverty level also tend to have lower average per capita incomes. Mississippi, for example, has the largest proportion of citizens below the Federal poverty level and the lowest average per capita income. These states may have a greater need for a public assistance program, yet they have fewer tax resources to support one.

The health status of residents, and thus their expected use of health services, also varies by state.[6] Much of a state's need can be predicted by the age distribution and prior utilization of the population. States with greater numbers of persons with catastrophic illnesses like acquired immune deficiency syndrome (AIDS) and tuberculosis or with higher rates of crime-related incidents face greater burdens in providing adequate health care. States like California and New York have large numbers of AIDS cases—more than 8,000 total cases in each state.[7] These patients require extensive,

Table 5-4. Poverty Level and Health Insurance Coverage, by State, 1991 (In Percent)

State	Population Below Poverty Level[a]	Health Insurance Coverage[b]			
		Medicaid	Medicare	Private Payer	Uninsured
National average	13.1%	10.7%	13.1%	72.1%	14.1%
Alabama	18.3	10.3	13.5	68.1	17.9
Alaska	9.0	17.9	5.0	63.0	13.2
Arizona	15.7	8.3	15.0	68.5	16.9
Arkansas	19.1	10.8	13.9	69.3	15.7
California	12.5	13.4	10.9	65.0	18.0
Colorado	11.7	9.6	11.5	77.6	10.1
Connecticut	6.8	7.2	12.8	83.2	7.5
Delaware	8.7	5.6	12.7	78.1	13.2
District of Columbia	16.9	13.2	11.6	57.6	25.7
Florida	12.7	10.1	18.5	65.5	18.6
Georgia	14.7	13.2	14.4	69.8	14.1
Hawaii	8.3	9.2	10.4	76.9	7.0
Idaho	13.3	6.3	11.8	73.5	17.8
Illinois	11.9	9.5	12.6	75.5	11.5
Indiana	10.7	10.2	12.5	75.4	13.0
Iowa	11.5	9.1	15.3	81.4	8.8
Kansas	11.5	6.1	12.7	79.8	11.4
Kentucky	19.0	13.3	16.4	69.4	13.1
Louisiana	23.6	11.6	12.5	64.5	20.7
Maine	10.8	13.2	13.2	74.4	11.1
Maryland	8.3	7.7	11.9	76.3	13.1
Massachusetts	8.9	9.7	13.9	76.8	10.9
Michigan	13.1	14.3	12.8	76.9	9.0
Minnesota	10.2	12.6	13.4	75.5	9.3
Mississippi	25.2	17.1	14.1	61.4	18.9
Missouri	13.3	9.1	12.5	76.2	12.2
Montana	10.2	12.5	13.1	75.3	12.7
Nebraska	11.1	6.0	13.0	82.0	8.2
Nevada	10.2	5.0	12.1	72.1	18.7
New Hampshire	6.4	8.1	11.2	79.6	10.1
New Jersey	7.6	7.3	13.3	79.7	10.8
New Mexico	20.6	13.7	11.4	60.4	21.5
New York	13.0	14.0	13.5	71.6	12.3
North Carolina	13.0	8.9	13.8	71.0	14.9
North Dakota	14.4	10.2	12.0	79.4	7.6
Ohio	12.5	10.5	12.8	77.2	10.3
Oklahoma	16.7	8.1	13.4	69.5	18.2
Oregon	12.4	9.0	14.0	74.4	14.2
Pennsylvania	11.1	9.9	15.7	80.7	7.8
Rhode Island	9.6	8.2	16.0	80.0	10.1
South Carolina	15.4	13.2	11.7	70.0	13.1
South Dakota	15.9	10.2	16.5	78.2	9.9
Tennessee	15.7	13.0	14.7	71.1	13.4
Texas	18.1	9.1	11.0	64.3	22.1
Utah	11.4	7.8	8.8	76.6	13.8
Vermont	9.9	11.1	13.7	74.7	12.7
Virginia	10.2	5.7	9.9	71.6	16.3
Washington	10.9	9.3	12.3	77.2	10.4
West Virginia	19.7	11.9	15.3	67.6	15.7
Wisconsin	10.7	9.6	13.7	81.2	8.0
Wyoming	11.9	6.5	11.5	79.2	11.3

[a] Figures are for 1989.

[b] Does not include CHAMPUS, the Department of Veterans Affairs, and other military plans. In addition, the categories are not mutually exclusive.

SOURCE: Statistical Abstract of the United States, 1992; and March 1992 Current Population Survey, Department of Commerce, Bureau of the Census (unpublished).

costly health care services and often strain existing state public insurance programs.

Health Insurance

Health insurance moderates the cost of medical care to individuals. The extent to which state populations are covered by health insurance varies widely (see Table 5-4). Almost 86 percent of the U.S. population is covered by some type of insurance, and almost three-quarters have private insurance. Because these figures do not reflect the adequacy of coverage, the number of people who may be considered underinsured is unclear. Medicare insures 13.1 percent of the entire population; Medicaid covers 10.7 percent; and the Civilian Health and Medical Programs of the Uniformed Services (CHAMPUS), the Department of Veterans Affairs, or other military programs insure 3.9 percent. Among the elderly, 96 percent have Medicare insurance, while 9.5 percent are covered under state Medicaid programs. Most of the poor elderly are covered by both Medicare and Medicaid. Although coverage varies with the type of insurance, most insurance plans cover hospital and physician services.

Private health insurance, which includes Medicare supplemental policies, covers at least 60 percent of each state's population. States with the smallest proportions of privately insured residents also tend to be those with greater proportions of poor people (those below the Federal poverty level). Mississippi and New Mexico, for instance, have the smallest proportion of residents with private insurance (61.4 percent and 60.4 percent, respectively) and are among the states with the largest percentage of poor residents (25.2 percent and 20.6 percent, respectively). By contrast, states with the greatest proportion of privately insured individuals, such as Connecticut (83.2 percent) and Nebraska (82.0 percent), also have relatively few residents below the Federal poverty level (6.8 percent and 11.1 percent, respectively). Those states with more privately insured citizens have less of a burden in enhancing their residents' ability to obtain insurance or to pay for services.

Traditionally, private health insurance policies have been indemnity policies; that is, insurers pay on a fee-for-service basis and enrollees pay specified deductibles and copayments and are free to choose their own providers. In the 1990s, managed care plans have penetrated the private insurance market. These plans integrate the financing and delivery of health care and often cover more preventive services. (See Chapter 3.) Types of managed care plans include health maintenance organizations (HMOs), preferred provider organizations, and, more recently, point-of-service plans. In 1991, 15.3 percent of the U.S. population was enrolled in HMOs.[8] HMO enrollment varied across states, however. In 1991, more than 25 percent of the privately insured in California, Massachusetts, and Minnesota were enrolled in HMOs. By contrast, more rural states like Idaho and Montana showed little or no HMO activity.

State Medicaid programs provide health benefits to certain low-income people who lack private insurance. Each state establishes its own eligibility levels and, to some degree, program benefits. The extent to which states cover their low-income residents and the level of coverage provided vary. In 1991, state Medicaid participation levels ranged from 17.9 percent of Alaska's population to 5 percent of Nevada's; the national average was 10.7 percent. These variations may be due to each state's ability to finance its Medicaid program, the number of low-income people requiring health insurance, or both.

Federal law requires each state Medicaid program to pay Medicare premiums, copayments, and deductibles for elderly persons whose income is below the Federal poverty level. In addition, elderly persons who meet state Medicaid eligibility criteria qualify for services covered by Medicaid. A subset of each state's poor elderly population thus qualifies for both Medicare and Medicaid benefits. States vary in the proportion of their population who are dually eligible. For example, 25 percent of Alaska's Medicaid enrollees are 65 or older, compared with only 2 percent in Delaware. Because only a small number of Alaskans are elderly, those dually eligible may not constitute a great burden. However, in states with large elderly populations and a greater than average reliance on Medicaid, such as West Virginia, the dually eligible elderly may significantly strain public finances.

Even with the existence of Medicare, Medicaid, and private insurance, about 14 percent of Americans had no health insurance in 1991. The percentage of uninsured individuals in each state ranged

from 22 percent in Texas to 7 percent in Hawaii (see Table 5-4). The proportion of uninsured for each state varies for many reasons, including the type of industry and union presence, age distribution, poverty levels, and state policy environments. For instance, Hawaii's low percentage of uninsured persons is due primarily to the state's requirement that employers provide health insurance coverage for all full-time and many part-time employees.

A substantial portion of the uninsured population works part time or is employed by firms that do not offer health insurance benefits. (See Chapter 1.) Many states have instituted small market insurance reforms to help reduce this portion of the uninsured population.

In summary, those states with older populations, less wealth, and more uninsured residents face greater challenges in making health care available to all residents. Furthermore, these same characteristics limit a state's resources and its ability to provide adequate insurance coverage through a public insurance system.

STATE VARIATION IN SUPPLY AND USE OF HEALTH SERVICES

The supply and use of health care services affect the level of health spending. Health care is delivered in a variety of settings, including hospitals, physicians' offices, free-standing outpatient facilities, and nursing facilities. Home health agencies also serve an increasing number of people. The numbers of each of these facility types vary across states because of differences in states' population characteristics, medical practice patterns, and state regulatory controls.

Hospitals

Community hospitals traditionally have been the major service centers for health care as well as the largest category of health expenditures. The supply and use of community hospitals vary by state (see Tables 5-5 and 5-6). In 1991, there were, on average, about four hospital beds per 1,000 residents; the number of beds varied across states, however, from seven in North Dakota to a low of two in Alaska. Midwestern states generally had the most hospital beds per resident. Hospital occupancy rates varied from a low of 49.3 percent in Alaska to a high of 85.3 percent in New York; the national average was 64.5 percent.

States also vary in the amount of inpatient hospital services their residents use. The average number of patient days per capita indicates a state's overall use of hospital inpatient services. It reflects both the total number of hospital admissions in a state and the length of stay of each admission. Nationally, this average was about 885 days per 1,000 population in 1991, but it ranged from a high of 1,636 days per 1,000 population in North Dakota to a low of 375 days in Alaska (see Table 5-6). Length of stay appears to be the primary reason for higher numbers of hospital inpatient days in North and South Dakota; in Pennsylvania, the number of admissions appears to drive the high number of inpatient days. Interestingly, the top three states in terms of hospital bed supply—Montana, North Dakota, and South Dakota—ranked similarly in terms of average length of stay and also had high numbers of inpatient days per 1,000 population.

Physicians

The number of practicing physicians relative to population size also varies across states (see Table 5-7). This variation may refleet the location of tertiary medical centers, social and cultural amenities, or geographic disparities in prices for physician services. In 1992, the number of active, non-Federal physicians per 100,000 population varied from a low of 127 in Idaho to a high of 337 in Massachusetts. Four of the seven states with the greatest physician supply were located in New England. The states with smaller numbers of physicians per resident tended to be rural.

The number of office-based primary care physicians also varied. Vermont had the most, 74 primary care physicians per 100,000 population, compared to Nevada with 40. States like Maryland and Massachusetts with high numbers of total physicians also tended to have more primary care physicians, even though the proportion in primary care was much lower in these states than in others. States with fewer total physicians, such as Nevada and Mississippi, also tended to have relatively few primary care physicians.

Table 5-5. States with High and Low Supply of Inpatient Hospital Services, 1991

Rank	Average Occupancy		Number of Beds Per 1,000 Population	
	State	Rate	State	Number
National average	All	64.5%	All	3.80
Highest				
1	New York	85.3	North Dakota	6.98
2	Hawaii	83.1	South Dakota	6.08
3	New Jersey	80.0	Montana	5.43
4	Rhode Island	78.8	Nebraska	5.30
5	Connecticut	75.7	Iowa	5.06
Lowest				
1	Alaska	49.3	Alaska	2.09
2	Wyoming	51.5	Washington	2.39
3	Oregon	55.3	Utah	2.50
4	Oklahoma	55.5	New Mexico	2.57
5	Kansas	55.7	Hawaii	2.61

Note: Includes community hospitals only; excludes the District of Columbia.

SOURCE: American Hospital Association Annual Survey, 1991, and Statistical Abstract of the United States, 1992.

Table 5-6. States with High and Low Community Hospital Service Use, 1991

Rank	Number of Inpatient Days Per 1,000 Population		Number of Admissions Per 1,000 Population		Average Length of Stay (In Days)	
	State	Number	State	Number	State	Number
National average	All	885	All	120.8	All	7.3
Highest						
1	North Dakota	1,636	Tennessee	156.7	North Dakota	11.1
2	South Dakota	1,368	Pennsylvania	151.2	South Dakota	10.3
3	New York	1,290	West Virginia	150.8	Montana	10.0
4	Montana	1,247	Alabama	147.9	New York	9.9
5	Pennsylvania	1,141	North Dakota	147.4	Nebraska	9.6
Lowest						
1	Alaska	375	Alaska	65.5	Utah	5.2
2	Utah	531	Hawaii	84.7	Oregon	5.3
3	Oregon	539	Nevada	93.5	New Mexico	5.5
4	New Mexico	541	Idaho	94.3	Arizona	5.5
5	Washington	549	Washington	98.3	Washington	5.6

Note: Includes community hospitals only; excludes the District of Columbia. Data for admissions per 1000 population are not adjusted for patient migration or for use of Department of Veterans Affairs and Department of Defense facilities.

SOURCE: American Hospital Association Annual Survey, 1991, and Statistical Abstract of the United States, 1992.

Nursing Facilities

Nursing facilities generally provide post-acute care and long-term care to elderly persons, many of whom have functional limitations. In 1991, on average, there were 55.5 nursing facility beds per 1,000 persons over 65; however, there was considerable variation across the states (see Table 5-8). Indiana had the most beds, at 88.7 per 1,000, compared to Hawaii, which had only 18.7. In general, midwestern states had the largest supply of beds. States that attract healthy retirees, such as Arizona, Florida, and Hawaii, had fewer nursing home beds.

Table 5-7. States with High and Low Physician Supply, 1992

Rank	Number of Physicians Per 100,000 Population[a]		Number of Office-Based Primary Care Physicians Per 100,000 Population[b]	
	State	Number	State	Number
National average	All	219	All	54
Highest				
1	Massachusetts	337	Vermont	74
2	Maryland	333	Hawaii	69
3	New York	323	Maryland	69
4	Connecticut	308	Minnesota	68
5	Rhode Island	259	Massachusetts	65
Lowest				
1	Idaho	127	Nevada	40
2	Alaska	128	Mississippi	42
3	Mississippi	134	Michigan	42
4	Wyoming	135	Oklahoma	43
5	Nevada	146	Iowa/Utah	44

Note: Does not include the District of Columbia.

[a] Excludes Federal, inactive, and not classified physicians.

[b] Includes internal medicine, general, and family practitioners.

SOURCE: 1992 Area Resource File, from the Health Resources Services Administration, Bureau of Health Professions; and Statistical Abstract of the United States, 1992.

Variation across states occurs partly because of demographic profiles and state regulatory policies. Since state Medicaid programs are the primary third-party payers for nursing facility services, states historically have exerted strong control over the number and types of nursing facility beds. States exert control through measures such as certificate of need (CON) programs, licensing and quality regulations, and Medicaid payment policies.

Home Health Agencies

Home health agencies also provide post-acute and long-term care. In some cases, these services may substitute for care provided in a nursing facility. Home health agency supply is often measured as the ratio of agencies to residents 65 years or older. Although this does not reflect differences in staffing or actual agency capacity, it provides a relative measure of supply in each state.[9] In 1991, the supply of Medicare-certified home health agencies varied tenfold among states, from almost 84 agencies per 100,000 elderly in Wyoming to only 8.5 agencies per 100,000 in New York (see Table 5-9). Because home health agencies vary substantially in capacity, those states with the most agencies are not necessarily the same states with the greatest number of home health users.

Table 5-8. States with High and Low Free-Standing Nursing Facility Bed Supply, 1992

Rank	Number of Beds Per 1,000 Population Over Age 65*	
	State	Number
National average	All	55.5
Highest		
1	Indiana	88.7
2	Kansas	84.9
3	Oklahoma	83.1
4	Iowa	82.4
5	Louisiana	77.9
Lowest		
1	Hawaii	18.7
2	Nevada	28.5
3	Florida	29.1
4	Arizona	33.2
5	West Virginia	36.3

* Includes beds in both certified and uncertified facilities.

SOURCE: Marion Merrell Dow *Managed Care Digest, Long Term Care Edition*, 1993, and SMG Marketing Group, Inc., 1993.

Table 5-9. States with High and Low Home Health Agency Supply and Use, 1990

	Number of Medicare-Certified Home Health Agencies Per 100,000 Population Over Age 65*		Number of Home Health Visits Per 1,000 Medicare Beneficiaries		Number of Home Health Visits Per Medicare User		Percentage of Medicare Beneficiaries Using Home Health Services	
Rank	State	Number	State	Number	State	Number	State	Percent
Highest								
1	Wyoming	83.7	Mississippi	6,319	Mississippi	62.0	Mississippi	10.0%
2	Louisiana	54.6	Tennessee	5,296	Tennessee	55.3	Tennessee	9.0
3	Arkansas	51.0	Alabama	3,897	Alabama	54.0	Vermont	9.4
4	Alaska	46.0	Louisiana	3,675	Louisiana	47.3	Louisiana	8.0
5	Montana	40.7	Virginia	3,034	Arkansas	41.3	Missouri	7.3
Lowest								
1	New York	8.5	Hawaii	419	Hawaii	19.2	Hawaii	2.2
2	Washington	9.3	Alaska	545	Minnesota	20.3	Alaska	2.5
3	Rhode Island	9.8	Minnesota	587	Oregon	20.7	South Dakota	2.8
4	Florida	10.9	South Dakota	586	South Dakota	21.1	Minnesota	2.9
5	California	13.2	Wyoming	864	Alaska	21.7	Arizona	3.2

Note: The figures are based on Medicare data.

* Figures are for 1991.

SOURCE: Health Care Financing Administration, and Statistical Abstract of the United States, 1992. ProPAC analysis of 1990 Home Health Agency Skeleton Records.

Combining Medicaid and Medicare beneficiary use, New York, California, and Florida had the most users; however, these three states are among the bottom five in the number of agencies per 100,000 elderly population.

Focusing specifically on Medicare, the number of beneficiaries using home health care in 1991 was small, ranging from 2 percent to 10 percent of the total Medicare population. Mississippi had the greatest proportion of beneficiaries using home health services—10 percent. By contrast, only 2 percent of Hawaii's beneficiaries used home health services. Similarly, the number of visits per user ranged from 62 per year in Mississippi to 19 per year in Hawaii.

Other Facilities

Free-standing ambulatory surgical centers (ASCs) provide services that substitute for certain procedures performed in hospital outpatient departments. ASCs have grown rapidly over the last several years. (See Chapter 3.) The distribution of these facilities varies dramatically across states. California, for example, had 234 ASCs in 1991, while Vermont had none.[10] Florida and Texas also had large numbers of ASCs.

The supply of kidney dialysis services also differs across states. The availability of dialysis stations varies threefold. In 1992, Mississippi had the greatest number, about two per 10,000 population, while Vermont had less than one station per 10,000 population.[11]

STATE VARIATION IN HEALTH POLICY AND REGULATORY ENVIRONMENTS

Each state's health policy and regulatory environment affects the delivery and financing of health care services. A major policy influence, Medicaid programs vary extensively in the populations covered and the services provided. The number and types of health care providers are affected through measures such as licensure and certificate of need requirements. This section describes the variation in state regulatory environments. It also highlights recent and innovative strategies states are pursuing that affect the delivery and financing of health care services for their citizens.

Medicaid

Medicaid is a means-tested entitlement program jointly funded by the Federal and state govern-

ments. Its funds are used to purchase medical services for low-income pregnant women and young children, as well as low-income elderly, blind, and disabled people, or others receiving Aid to Families with Dependent Children (AFDC) or Supplemental Security Income (SSI). Unlike private insurance and Medicare, a large proportion (38 percent) of Medicaid dollars in 1991 covered chronic care services, such as nursing facility, home health, and community-based services. In fiscal year 1991, some 28.3 million people were enrolled in Medicaid programs; total Medicaid expenditures exceeded $77 billion.

Because they are administered by states under broad Federal guidelines, state Medicaid programs vary extensively. Each state receives matching funds from the Federal government to pay for certain services. This match is based on the average state per capita income; states with a lower per capita income receive more Federal assistance. These proportions range from 50 percent to 83 percent of a state's program expenditures. In recent years some states have used provider taxes and donations to increase the Federal contribution for Medicaid expenditures. In addition, state payments per recipient vary substantially (see Table 5-10). State Medicaid programs vary further in terms of income eligibility standards; the type, amount, duration, and scope of services covered; and the payment methodology used for reimbursing services.

Table 5-10. States with High and Low Medicaid Payments Per Recipient, Fiscal Year 1991

Rank	State	Average Payment Per Recipient	Fiscal Year 1991 FMAP*
National average	All	$2,725	55.5%
Highest			
1	Connecticut	5,994	50.0
2	New York	5,577	50.0
3	New Hampshire	4,898	50.0
4	District of Columbia	4,456	50.0
5	New Jersey	4,437	50.0
Lowest			
1	Arizona	268	61.7
2	Mississippi	1,607	79.9
3	California	1,886	50.0
4	West Virginia	1,912	77.0
5	Alabama	1,997	72.7

Note: FMAP = Federal Medical Assistance Percentage. This is the Federal government's share of Medicaid payments.

* These percentages are recalculated yearly.

SOURCE: Health Care Financing Administration, Medicaid Bureau.

Eligibility Standards

All participating states are required to cover people who receive Federally assisted income maintenance payments, such as AFDC or SSI, and certain other populations specified by Title XIX of the Social Security Act. All Medicaid programs must, for example, cover women and children under six with incomes up to 133 percent of the Federal poverty level. Each state is allowed to set its own income standards for AFDC assistance; therefore, the proportion of low-income populations covered by Medicaid varies by state. For instance, in 1992 Alabama set its Medicaid eligibility standard at $1,788 per year, which is 16 percent of the Federal poverty level; by contrast, California set its threshold at $7,956 per year, which is almost 69 percent of the Federal poverty level.

In addition, states have the option of funding medical services for several other populations through Medicaid. States vary in whether they serve these other groups and the extent to which they cover allowable services. These optional programs extend service coverage to include certain aged, blind or disabled adults whose incomes are above the mandatory program level but below the Federal poverty level; persons receiving care under the home and community-based services waivers; and people whose resources are depleted to Medicaid standards after they have paid for medical care. However, each state determines which groups to include in the optional program and sets the income-eligibility standards.

Service Coverage

The types of services covered under state Medicaid programs vary. All programs are required to provide certain services. But states have the option of furnishing additional services and determining the extent of coverage. For example, all states cover prescription drugs and a few also include respiratory care services.

The amount and duration of services provided under Medicaid also vary by state. Accordingly, each program covers a different number of hospital days and physician visits. However, states are not allowed to limit medically necessary inpatient care for Medicaid-eligible children under age six in disproportionate share hospitals or for infants in any hospital.

Payment Methods

Payment methods for Medicaid services vary extensively among states.[12] States may use charge- or cost-based systems, fee schedules, relative value systems, or prospective payment systems. Individual states may also establish different payment methodologies for different types of services. Regardless of the payment method, all participating providers must accept the reimbursement as payment in full. With few exceptions, states have broad discretion in determining the reimbursement methodology and payment rates.

Innovative Strategies

The importance of Medicaid varies among states. As noted earlier, states with lower per capita income levels receive a greater proportion of Federal funds to offset state costs in providing Medicaid coverage. In addition, the percentage of the state's population earning less than the Federal poverty level may reflect health care needs in the state. In 13 states and the District of Columbia, at least 15 percent of the population is below the Federal poverty level (see Table 5-4). Poorer people are often sicker and require more services. The prevalence of catastrophic disease further affects each state's level of need. Medicaid covers a large and growing proportion of hospital costs for people with human immunodeficiency virus (HIV) each year—40 percent of total HIV discharges in 1990.[13] States like California and New York, which have large HIV and Medicaid populations, face greater burdens in providing adequate health care.

Regardless of specific population and program characteristics, all states are attempting to control net Medicaid expenditures. Medicaid programs have grown in recent years, both in the number of enrollees and in the after-inflation dollars spent per beneficiary. Those areas experiencing the fastest growth between 1987 and 1990 included Medicare copayments (24 percent), home health services (24 percent), and hospital outpatient services (17 percent). The most rapid enrollment increases were seen in the West South Central region; expenditures per enrollee were greatest in the New England and Pacific regions.[14] Some states have attempted to control spending by narrowing program eligibility requirements. Others have developed more innovative strategies to address this problem.

Oregon recently received a waiver from Federal Medicaid requirements to modify its program. The program is unique in that it eliminates coverage for certain services to expand coverage to more people. Oregon used a panel of experts to rank 688 medical treatments by medical effectiveness and seriousness of the condition to be treated. Medicaid will fund treatment for the first 568 conditions. The money saved by eliminating coverage for the last 120 conditions will be used to raise the income criterion for eligibility from 50 percent to 100 percent of the Federal poverty level. Medicaid recipients will be enrolled in managed care plans. In addition to the Medicaid modifications, the state has enacted legislation requiring all employers to provide health insurance to their employees. With these two proposals, Oregon aspires to achieve universal health coverage for its residents.

Arizona also has been innovative in meeting its state Medicaid needs. Since 1982, almost all Medicaid recipients have been enrolled in managed care arrangements. Arizona uses competitive bidding to select health plans to cover Medicaid enrollees. Providers are prepaid on a capitated basis, and nominal copayments are collected from certain enrollees. The full scope of mandated services is offered and the state acts as the service purchaser.[15]

Other states also are using managed care arrangements in their Medicaid programs. About 36 state programs currently offer but do not mandate managed care plans. New York recently passed legislation requiring that 50 percent of its Medicaid recipients be enrolled in managed care programs by 1996. Nearly all of Maryland's Medicaid population is enrolled in an HMO or other managed care arrangement.

Private Health Insurance Initiatives

The large and growing number of uninsured persons affects health care expenditures by increasing costs to the remaining payers. States are responsible for regulating the commercial insurance industry, including private health insurance. Accordingly, many states are searching for ways to increase the number of individuals covered by some form of health insurance. While some states are modifying their Medicaid programs to cover more people, many also have been reforming their insurance regulations to encourage the purchase of private insurance. These reforms focus primarily on small businesses because the high costs of health insurance premiums greatly impede their ability to provide health coverage to their employees.

Even though insurance regulation is within the states' purview, Federal initiatives may affect the ability of states to accomplish insurance reform. Specifically, the Employee Retirement Income Security Act of 1974 (ERISA), which supersedes state law, has limited states' abilities to oversee health insurance. Although ERISA originally was enacted to protect workers' private pension rights, it exempts employers' self-funded health plans from state insurance requirements.[16] Consequently, states may not regulate self-funded health plans. The exception is Hawaii, the only state to have received a congressional exemption from ERISA.

Almost a third of the nation's privately insured workers are enrolled in employer self-insured plans.[17] Because of ERISA, states cannot require these plans to cover a specified set of health benefits. In addition, states are unable to require these plans to pay premium taxes to help finance uncompensated care. Employers that are not able to self-insure—primarily the smaller ones—must purchase health insurance from commercial and nonprofit insurers, which are subject to state regulation. Small businesses pay higher premiums for insurance in part because they lack bargaining power. State regulations, including mandatory benefit requirements and additional taxes, further increase small employers' insurance costs. Small employers that cannot afford these high costs may be forced to eliminate or reduce health insurance benefits for their employees, thus increasing states' uninsured populations. Small market reforms attempt to alleviate these problems. Some of the more common strategies to encourage small employers to provide health insurance for their workers include guaranteed coverage and reinsurance, mandated benefit waivers, tax incentives, and community rating.

Guaranteed coverage laws ensure that employees of small businesses retain health insurance regardless of the employees' medical conditions.[18] These provisions attempt to prevent lapses in coverage when employers change insurers, insurers withdraw coverage, or employees change jobs. The provisions may also require insurance companies to insure all eligible members of small groups, as well as limit the ability of insurers to implement new waiting periods or to exclude employees based on preexisting conditions at the time of coverage renewal.[19] Several states, including Delaware, Florida, Iowa, Kansas, Maine, Ohio, and Rhode Island, have enacted laws to guarantee continuity of health care coverage for employees of small businesses.[20]

These same states also provide for the creation of reinsurance programs that enable individual insurers to spread the costs of covering high risk groups among a larger insurer group.[21] Participation is either mandatory or voluntary, and participating insurers contribute a specified dollar amount for every individual they insure. This money is used to finance the health care costs of individuals with very costly health conditions.

About half the states have passed mandated benefit waivers to encourage the purchase of health insurance. Traditionally, states have required insurers to provide a minimum level of benefits. Waiver provisions allow private insurers to offer plans that reduce or eliminate some of these benefits ("bare bones" packages), thus lowering the plan's premium.[22]

Several states also are using tax incentives, including tax credits and premium tax exemptions, to encourage small employers to provide health insurance. For example, in Iowa, Nevada, New Mexico, and West Virginia, basic benefit plan premiums are exempt from premium taxes that are imposed on other plans. In Iowa and Montana, employers that provide coverage for the first time under basic benefit plans can receive tax credits.[23] Other states, such as California and Minnesota, have proposed tax credit legislation to protect individuals. These states would allow individuals to

open a tax-free health spending account and use this money to pay for insurance cost sharing and other health care needs.[24]

Finally, several states have implemented community rating laws, which prohibit the use of health status or prior utilization of health care services to set premium rates. Under this system, all individuals pay similar rates, thus protecting sicker or older persons who otherwise would pay much higher premiums. New York enacted a strict community rating law that went into effect April 1, 1993. It applies to small group and individual policies as well as to Medicare supplemental insurance. The law prohibits insurers from charging different rates unless that difference is based solely on geographic variation. Other states, such as Massachusetts, New Jersey, and Vermont, have enacted modified community rating laws. In Massachusetts, for example, rates are allowed to vary for a limited set of factors, including age, sex, and type of employment.[25]

REGULATION OF HEALTH CARE SERVICES SUPPLY

The supply of health care services affects health care spending and individuals' access to the health system. The degree and manner in which states regulate health services supply vary. States can regulate directly through certificate of need legislation or more indirectly through mechanisms such as licensure requirements. Both measures are intended to increase states' control of health care supply.

Certificate of Need

Certificate of need is a regulatory process that requires hospitals, other health care facilities, and sometimes physicians to receive state approval before offering new services or purchasing capital that exceeds a specified cost threshold.[26]

Certificate of need achieved prominence in the 1970s, when Federal funds were authorized through the National Health Planning and Resources Development Act of 1974. During this period, every state but Louisiana implemented some type of CON program. In the 1980s, deregulation and the elimination of Federal funding for CON programs led many states to de-emphasize their programs. In addition, several studies questioned their effectiveness.[27] As a consequence, many states raised review thresholds, exempted services, or repealed their program altogether.[28]

Certificate of need has reemerged recently as states attempt to contain health care costs by limiting the supply of expensive technology and health care services. Some states have reinstituted CON programs, others have delayed sunset provisions in their programs, and still others have strengthened their existing programs. For example, Virginia essentially repealed its CON law in 1989 but recently reinstituted it. Delaware, Georgia, Iowa, and Pennsylvania have expanded their programs. Currently, 38 states and the District of Columbia have some form of CON program in place.[29]

State CON programs can vary in the capital thresholds that trigger review and in the providers subject to review. CON programs in Arkansas, Indiana, Montana, and Oklahoma, for example, review long-term care facility expenditures but not spending by acute care hospitals. The effectiveness of individual state programs may also vary because of factors such as the type of administration, financial resources available, the relationship of CON to a state's overall health planning approach, and the influence of special interest groups.

With a growing number of services being provided outside the hospital setting, some states recently have begun focusing on extending CON review to additional health care providers. Pennsylvania, for instance, recently enacted legislation expanding its CON law to include physician purchases of high-cost technology, such as magnetic resonance imaging. Since 1991, Delaware, Georgia, and Iowa also have broadened their CON laws to include physicians. As traditional service patterns change within states, many state legislatures are considering extending CON review to other providers, such as ambulatory surgical centers and mobile imaging units.

States that have enacted multifaceted health reform legislation generally have included some form of CON review. Minnesota is illustrative. The state's recently enacted health reform law does not require prior approval of capital expenditures, but any expenditure exceeding $500,000 will be subject to retrospective review. Any project found not

to be cost effective or clinically efficacious could subject a provider to probation and up to a five-year freeze on major spending plans.

Licensure Requirements

While licensure requirements are primarily used by states to enforce quality standards, they may indirectly affect the supply of health care services. All states have some form of licensure for hospitals and nursing facilities, but the strictness of licensure requirements varies. For most states, licensure standards are met if a hospital is accredited by the Joint Commission on the Accreditation of Healthcare Organizations. States, however, may impose additional licensing requirements.

States also vary in their licensure requirements for alternative delivery systems, such as ambulatory surgical centers and home health agencies. Some states consider ASCs to function as "doctors' offices" and thus do not require licensure. Other states classify these centers as "clinical" or "institutional" and require licensure.

Licensure of home health agencies also is variable. While the Medicare program certifies these agencies, 39 states also require Medicare-certified agencies to be licensed. Only 35 states require non-Medicare certified agencies to be licensed, and 20 states extend this requirement to home care providers (aides and homemakers).[30]

RATE SETTING

Rate setting mechanisms to control per unit health care expenditures are employed by the Medicare program, some Medicaid programs, some Blue Cross plans, and some state governments. Most state rate setting programs target hospitals, but several also cover nursing facilities. A few states, including Maine, Michigan, and Texas, have implemented rate setting for Medicaid payments to physicians. Some programs are relatively simple in design, such as limiting the rate of increase in aggregate revenue per case, while others entail detailed budget reviews or standard payment rates based on diagnosis-related groups (DRGs). In the 1970s, many states experimented with rate regulation, but a number ultimately abandoned their efforts. There were 11 states that operated programs at some time during the 1980s.[31]

Four states—Maryland, Massachusetts, New Jersey, and New York—utilized all-payer rate setting systems for hospitals during the 1980s.[32] Under this system, a state establishes payment rates for the provision of services to all payer groups, including Medicare, although percentage differentials between payers may be approved. All-payer systems require a Medicare waiver.

Today, only Maryland maintains an all-payer system. The Maryland program differs from Medicare's prospective payment system (PPS) because it sets hospital-specific rates for inpatient and outpatient care. Hospitals initially submitted their budgets to a commission, which compared each hospital's expenses to the costs of a similar group of hospitals. On the basis of this review, the commission set individual department rates, which included bad debt and charity expenses. Annual rate updates are based on a similar budget review or an automatic inflation adjustment. The commission also evaluates the standardized cost per case of each hospital annually. Hospitals with the highest costs must undergo a full budget review.

In contrast to Maryland, the other three states with Medicare waivers allowed them to expire. Until recently, these states maintained rate regulation systems for all payers except Medicare. In New Jersey, a surcharge was added to all hospital rates in 1985 to pay for the costs of uncompensated care; in 1991, this surcharge was 19.1 percent. In 1992, a Federal court judge held that ERISA prohibited New Jersey from applying uncompensated care surcharges to rates paid by self-insured health plans. As a result, in December 1992, New Jersey passed legislation eliminating its rate setting program and replacing it with a market-based system. New York's rate setting program similarly was held unlawful in a recent court decision. In this case, the discount for payments made by Blue Cross was struck down. New York officials are now deciding whether to redesign or abandon their system. Massachusetts dismantled its rate setting program for acute care hospitals in 1988; its Medicaid program, however, continues to set prospective rates for nursing facility care.

The New Jersey, New York, and Massachusetts systems all paid hospitals on the basis of DRGs, similar to the approach used under PPS. While Maryland uses charges as the unit of payment, its

system nonetheless adjusts for case-mix differences among hospitals and for case-mix changes in the annual update process.

During the 1980s, the four states with the lowest growth in hospital costs per case were operating a rate setting system or had operated such a system at some time during the decade.[33] These were Maryland, Rhode Island, Massachusetts, and Wisconsin. However, five other former or current rate setting states had average rates of increase above the national average. This suggests that the effectiveness of rate setting is highly dependent on how the system is designed and managed. The variable that appears most closely associated with success is application of the state-approved rates to Medicaid patients. Including Medicaid, which is heavily state funded, gives the state a strong incentive to control the rate of growth in hospital payment rates.

Rate setting states have also been among the leaders in maintaining equity among payers. One measure of equity is the ratio of full charges—the highest rates paid by anyone—to the cost of care. During the 1980s, three of the four states with the smallest gap between charges and costs were rate setting states—Maryland, New Jersey, and New York.[34] These states also were three of the four relying least on cost shifting, as indicated by their relatively low private insurer payment to cost ratios (see Table 5-3).

DATA COLLECTION

One of the tools necessary for developing state health policies is an adequate database that summarizes existing health care costs and utilization. States differ widely in their ability to collect and analyze these data. The Federal government currently is surveying the states to identify existing databases and to document the type of data being collected.[35] As of 1992, 34 states collected some type of information from hospitals or other providers and used it to create a uniform health care data system (see Table 5-11).

The categories of providers that submit data vary across states. All 34 states collect data from hospitals; 15 also gather information from ambulatory care settings, including hospital outpatient surgery units, free-standing ambulatory surgical centers, and hospital outpatient departments. Nursing facility data are collected in 20 states, while only six states collect physician office data.

Table 5-11. Types of Data Collected from Hospitals, 1992

Data Type	Number of States
Financial	28
Discharge	30
Operating statistics	29
Utilization statistics	20

SOURCE: Unpublished data from *State Health Data Resource Manual*, Department of Health and Human Services.

The types of data collected also vary by state. Thirty states collect hospital discharge data, such as patient demographics, clinical information, and billing data. Most use uniform Federal reporting forms; however, some states, such as California and New York, have developed state-specific systems. Ohio and Texas collect only Medicare and Medicaid data. The states vary further in the specific variables they use. In addition, 29 states collect hospital operating statistics like the number of licensed beds, ownership status, and other provider variables.

Various hospital financial data are collected in 28 states, including facility revenues and expenses, charges, or other budgetary information. Some 17 states also collect financial data from nursing facilities.

Utilization data, such as hospital occupancy rates and average length of stay, are collected from almost all providers. Hospital utilization data are collected in 20 states, ambulatory data in nine, patient data from nursing facilities in 15, and information on visits to physicians' offices in six.

The range of data available for measuring costs and use varies extensively and depends on each state's resources, among other factors. As noted, existing health databases lack uniformity across and sometimes within states. Much work remains before a common set of data is available for comparing all payers' costs and utilization across states.

OTHER ACTIVITIES

Other state regulatory and legislative measures may affect the delivery and financing of health

care. Among these are medical malpractice reform measures, legislation exempting certain collaborative arrangements from antitrust scrutiny, and legislation limiting physician self-referral arrangements.

Malpractice Reform

Every state has implemented some degree of malpractice reform. Reforming the medical malpractice system has prompted attention because some observers believe that malpractice lawsuits are a contributor to rising health care costs. Increasing malpractice insurance premiums and so-called defensive medicine—the practice of ordering or performing more procedures to prevent the threat of malpractice lawsuits—have been suggested as reasons for reform. These factors may also affect physicians' willingness to practice in particular specialties (for example, obstetrics), thereby impeding access to care in certain areas.

State malpractice reforms generally have involved modifications in the judicial rules governing tort cases; the resolution of most medical malpractice suits is governed by tort law.[36] Because medical malpractice lawsuits typically are litigated in state courts, states have been active in reforming this area. The most common reform initiatives focus on reducing the number of malpractice claims and limiting the size of awards (see Table 5-12). States seek to balance the need for lawsuits to compensate injured patients adequately and deter poor physician performance with the burden on the physician of defending against frivolous lawsuits and paying very large damage awards.

Many state reforms were initiated in the 1970s, when malpractice insurance premiums were undergoing steep increases. Two states with comprehensive tort reform statutes are California and Indiana. California's Medical Injury Compensation Recovery Act was enacted in 1975 but did not become fully operational until the mid-1980s, after withstanding a constitutional challenge. The statute contains provisions limiting noneconomic and punitive damages, mandating the offset of collateral payment sources, allowing periodic payments of future damage awards, and establishing a sliding scale limitation on attorney contingency fees.

Indiana's statute has been characterized as a model for other states to consider. Enacted in 1975, the Medical Malpractice Act has three key provisions: a cap of $750,000 on all damages, mandatory pretrial review of claims to allow an informal determination of liability to expedite claim resolution, and establishment of a patient compensation fund used to pay claims exceeding $100,000.

While many state malpractice reform measures were instituted in the 1970s, additional reforms occurred in the late 1980s and are continuing in the 1990s. In 1992, reform measures were enacted in five states; in April 1993 Maryland passed health care legislation that includes malpractice reforms. Laws in Minnesota and Vermont provide for the development of practice guidelines. Physicians can use these parameters as a defense against claims of malpractice. Vermont's reform legislation also converts its current voluntary arbitration provision into a mandatory process for medical liability claims. Virginia and Florida have enacted limited no-fault programs for birth-related neurological injuries in which injured patients are paid regardless of fault.

Table 5-12. State Tort Reform Measures, 1992

Reform	Number of States
Joint and several liability	33
Noneconomic damages	8
Collateral sources	20
Prejudgment interest	9
Punitive damages	27
Periodic payments	14

SOURCE: American Tort Reform Association.

Antitrust Immunity

Several states have enacted legislation to protect hospital collaborative ventures from antitrust scrutiny. Collaborative arrangements between providers may involve consolidation of health care services to increase efficiency or collective decision making for purchasing expensive technology. These arrangements could increase access to high-technology equipment by allowing two or more providers to collectively purchase a piece of equipment each could not buy individually. They also could reduce duplicative purchasing of expensive equipment. Such arrangements, however, may concentrate market power. Under Federal and state antitrust laws, contracts and combinations that

restrain trade are illegal. Collaboration among hospitals that compete for patients in the same area could be subject to scrutiny under these laws.

Recently, several states, including Ohio, Washington, and Wisconsin, have passed laws intended to exempt certain cooperative ventures from both Federal and state antitrust scrutiny. Maine's 1992 Hospital Cooperation Act is designed to stimulate cooperation among hospitals by allowing them to enter into agreements to share facilities and resources without violating the antitrust laws.[37] The Maine law appears to have increased collaboration among hospitals.[38] Minnesota has enacted similar legislation and Kansas has passed a law that protects arrangements that improve rural health care.[39]

While these state laws can exempt hospital collaborations from state antitrust laws, it is unclear whether they offer protection against Federal scrutiny. Under Federal law, arrangements in which there is active state supervision are exempt from the Federal antitrust laws.[40] Accordingly, all state immunity statutes provide for some type of state regulatory oversight to exempt the arrangements from Federal antitrust prosecution.

Physician Self-Referral Statutes

States have begun to examine physician self-referral arrangements.[41] A recent study by the General Accounting Office found that physician investment in medical facilities is associated with more frequent patient referrals to those facilities and higher health care costs.[42] In 1989, the Federal government enacted legislation that bans the referral of Medicare and Medicaid patients to clinical laboratories owned by their physicians.[43] State self-referral laws typically exceed Federal standards because they apply to all payers and a broader range of services. Many state legislatures currently are debating physician self-referral legislation. Several states have enacted laws that require physicians to disclose to all their patients any financial interest in the facility before making a referral. Other states, including Florida, Georgia, Illinois, and New York, have enacted broader restrictions. In Florida, for example, physicians may not refer patients to radiation therapy centers in which they have a financial interest.

COMPREHENSIVE HEALTH CARE REFORM MEASURES

In response to rapidly rising health care costs and an increasing number of uninsured residents within their states, a number of state legislatures are debating integrated health care proposals or have commissioned studies of integrated systems. Most of these plans will require Medicaid or Medicare waivers.

ERISA—which has no waiver provisions—is a major barrier for states that are attempting to enact reform. As discussed earlier, under ERISA states are precluded from regulating benefits or assessing taxes on health care coverage provided by employers through self-insured plans. Because many employees are covered by self-insured plans, states have little ability to enact the major changes necessary to expand and pay for access for the uninsured. This was recently demonstrated in New Jersey and New York, when hospital surcharges used to finance uncompensated care and other payer discounts were invalidated on ERISA grounds.

Despite ERISA, several states have succeeded in enacting comprehensive legislation. These laws are described as comprehensive because they combine cost containment and health care coverage goals. They do not, however, address every facet of the health care system. Hawaii's program, which is the only one statutorily exempt from ERISA, has existed for almost 20 years; other recent laws have yet to be fully implemented. In 1992, comprehensive legislation was passed in Florida, Minnesota, and Vermont. Thus far in 1993, Washington has passed a comprehensive health plan and Florida has passed another law that further defines its 1992 goals.

Hawaii

Enacted in 1974, Hawaii's health plan has achieved almost universal access through the combined mechanisms of an employer-mandated insurance program; Medicaid; and the State Health Insurance Program, which provides health insurance to nearly all the remaining uninsured individuals.[44]

In Hawaii, all employers are required to provide comprehensive health insurance coverage to all employees who work more than 20 hours a week. Employers can require their workers to contribute 50 percent of the premium or 1.5 percent of their

gross wages, whichever is lower. Employers are not required to cover employees' dependents, but a large majority of them do so voluntarily. Hawaii in 1989 enacted the State Health Insurance Program, which is funded by general state revenues. Hawaii's success is somewhat unique because only two insurers dominate the state's health insurance market. Both voluntarily agreed to provide community-rated insurance premiums for businesses with fewer than 100 employees.

Future state plans include requiring all insurers to implement community rating. The state also is considering putting nearly 100,000 Medicaid recipients and 17,000 State Health Insurance enrollees on a single health plan with standard benefits. Finally, Hawaii is weighing a proposal to allow employers to charge their workers a higher share of the premium in exchange for providing coverage for dependents.

Vermont

Vermont's comprehensive proposal, enacted in 1992, involves global budgeting, centralized health planning, and the design of a health care system to achieve universal access. The focus is on developing an integrated health care system that is overseen by a single state agency. The law requires that the newly created Health Care Authority develop two plans guaranteeing universal access to health care, one based on a single-payer system and the other on a market-based multiple-payer system. Since the enactment of its law, Vermont also is looking at a third option that is similar to the managed competition approach to health care reform. This option would involve having a state agency collect and distribute all health care money and then bargain with providers and insurers for coverage and treatment. Networks of doctors, hospitals, and insurers would compete for business.

Vermont's law also requires the Health Care Authority to develop a binding unified budget for all health services, to be implemented by July 1, 1994. Additional measures include insurance and malpractice reforms and the establishment of a unified health care database.

Minnesota

MinnesotaCare, Minnesota's comprehensive health care reform legislation enacted in 1992, contains four major components that are aimed at reducing the growth in health care costs and expanding health insurance access. The law establishes a commission that is directed to develop a cost containment measure to achieve 10 percent annual reductions in the growth of health care spending. The law also expands Medicaid eligibility and establishes a state-subsidized health insurance plan for those residents who are poor but do not meet the eligibility requirements for Medicaid. The plan is to be financed by a tax on cigarettes, hospitals and other providers, and insurers. In contrast to Vermont, Minnesota's plan does not envision universal access; it is estimated that the plan will subsidize insurance for about half of Minnesota's uninsured residents by 1997.[45] The law also contains provisions relating to medical malpractice, health planning, rural health care, and insurance market reforms.

Florida

Florida's Health Care Reform Act of 1992 mandated that all residents have access to health care by December 31, 1994. In addition to setting a goal of universal access, the legislation established goals for cost containment; insurance reforms; health regulation; and data collection, research, and analysis. Similar to Vermont's law, the legislation also consolidates the state agencies responsible for administering health service programs, including Medicaid, into a single state organization called the Agency for Health Care Administration. This agency is responsible for developing and implementing Florida's health plan.

In April 1993, Florida passed a market-based plan to achieve its 1992 reform goals. The plan is based on a managed competition approach in which groups of consumers, such as small employers, would purchase health care from competing networks of health care providers and insurers.

Washington

Comprehensive health care reform legislation was passed in Washington in May 1993. The new law requires all businesses to provide health insurance for their employees and dependents by 1999.

A state commission will develop a uniform benefits package and a maximum price that can be

charged for those benefits. Insurers will be required to offer the uniform package through managed care arrangements on a prepaid per capita basis.

By 1999, Washington expects all residents to be enrolled in some form of managed care. Expanding health care access to the uninsured population will be funded initially through a tax on alcohol, tobacco, and hospitals.

CONCLUSIONS

The financing and delivery of health care are unique in each of the 50 states and the District of Columbia. State population characteristics such as age, wealth, and health status affect the demand for and affordability of health care services. Health services supply affects the availability and utilization of these services. State policy and regulatory schemes interact with these other factors to define each state's health care environment. States are continuing to initiate health care reforms to improve health care financing and access.

More research is needed to understand how each state's characteristics interact to affect health care financing and delivery. Future ProPAC research will examine differences in state characteristics and identify those factors that are associated with variations in expenditure levels. This information will be an important tool in the development of health care policies.

Notes to Chapter 5

1. For example, before the recent physician payment reform, Medicare carriers (local entities that pay Part B claims) had considerable discretion in determining how "reasonable" charges were determined. The interpretation of reasonable could, and did, vary depending on where the service was delivered. This allowed carriers to take into account local practice patterns. Medicare's PPS also recognizes existing differences in hospital costs by adjusting payments to reflect local factors such as variations in labor wage rates.

2. Intra-state variation can also be large. Examination of variation at this level, however, is difficult because of data limitations and migration between areas.

3. The Health Care Financing Administration historically calculated state-level data on personal health expenditures, but discontinued this process in 1982. A recent General Accounting Office (GAO) report used estimated 1990 per capita spending levels (based on HCFA's 1982 estimates) to analyze total per capita spending on personal health care at the state level. The GAO report concluded that differences in personal incomes, health services capacity, the concentration of hospital services in urban areas, and health status explained much of the variation in state health care expenditures. See General Accounting Office, *Health Care Spending: Nonpolicy Factors Account for Most State Differences*. GAO/HRD-92-36, February 1992.

4. Prospective Payment Assessment Commission, *Medicare's Skilled Nursing Facility Payment Reform*, Congressional Report C-92-01, March 1992, 28.

5. The 1993 Federal income poverty level for a family of three is $11,890. See 58 Federal Register 8287, February 12, 1993.

6. A recent report by Northwestern National Life describes state variation by examining 17 factors related to health status including, for example, prevalence of smoking, heart disease, and unemployment. *The NWNL State Health Rankings* (Minneapolis, MN: Northwestern National Life Insurance Company, 1992).

7. Public Health Service, Centers for Disease Control and Prevention, *HIV/AIDS Surveillance, Year-End Edition*, February 1993.

8. Group Health Association of America, Inc., *Patterns in HMO Enrollment* (Washington, DC: GHAA, 1992).

9. ProPAC is currently conducting research to improve this measure of home health agency supply.

10. SMG Marketing Group, Inc., *Freestanding Outpatient Surgery Centers Report and Directory*, July 1992.

11. Data from the Health Care Financing Administration, Bureau of Data Management and Strategy.

12. State-by-state Medicaid hospital payment methods were published in Prospective Payment Assessment Commission, *Medicaid Hospital Payment*, Congressional Report C-91-02, October 1, 1991, 43-49. State-by-state Medicaid nursing facility payment methods were published in ProPAC's report, *Medicare's Skilled Nursing Facility Payment Reform*.

13. Unpublished data from the National Hospital Discharge Survey of the National Center for Health Statistics, Centers for Disease Control and Prevention, Public Health Service.

14. John Holahan and others, "Understanding the Recent Growth in Medicaid Spending," in *Medicaid Financing Crisis: Balancing Responsibilities, Priorities, and Dollars*, Background Papers (Baltimore, MD: Kaiser Commission on the Future of Medicaid, 1992).

15. Dr. Leonard Kirschner, director of the Arizona Health Care Cost Containment System, personal communication, April 12, 1993.

16. 29 U.S.C. § 1144.

17. Information on the number of privately insured workers comes from two surveys conducted by the Bureau of Labor Statistics of the U.S. Department of Labor: *Employee Benefits in Small Private Establishments for 1990*, Bulletin No. 2388, September 1991; and *Employee Benefits in Medium and Large Private Establishments for 1991*, May 1993.

18. General Accounting Office, *Access to Health Insurance—State Efforts to Assist Small Businesses*, GAO/HRD-92-90, May 1992, 18.

19. The George Washington University Intergovernmental Health Policy Project, *Access to Health Care: State Strategies and Legislation (1991)*, March 1992, 13.

20. Based on information from the Blue Cross and Blue Shield Association, Office of Government Relations, August 1992.

21. Ibid.

22. Intergovernmental Health Policy Project, *Access to Health Care*, 5-9.

23. Ibid., 15.

24. George Washington University Intergovernmental Health Policy Project, *Expanding Access to Health Care—An Overview of 1992 State Legislation*, January 1993, 45.

25. Ibid., 41.

26. In this discussion, CON includes "determination of need" as used by Massachusetts to describe its process and "permit of approval" as used by Arkansas.

27. See the CON discussion in Joyce A. Lanning, Michael A. Morrisey, and Robert L. Ohsfeldt, "Endogenous Hospital Regulation and Its Effects on Hospital and Non-Hospital Expenditures," *Journal of Regulatory Economics* 3:144-46, 1991.

28. Between 1983 and 1988, 11 states repealed their CON programs: Arizona, California, Colorado, Idaho, Kansas, Minnesota, New Mexico, South Dakota, Texas, Utah, and Wyoming. The George Washington University Intergovernmental Health Policy Project, *Certificate of Need: An Overview of 1992 State Legislative Activity*, 1993.

29. Ibid.

30. National Association of Home Care survey of its Forum of State Associations, September 1992.

31. Unpublished analysis by Hal Cohen, Inc.

32. Under the legislation that established Medicare's prospective payment system, states could receive a waiver if all payers were regulated and if Medicare outlays were equal to or less than what the expenditures would have been under the Federal system. For Maryland, this was later changed to require the rate of increase in expenditures to be less than under Federal payment.

33. Unpublished analysis by Hal Cohen, Inc.

34. Prospective Payment Assessment Commission, *Optional Hospital Payment Rates for Private Payers Based on Medicare's Methods*, Congressional Report C-92-03, March 1992, 84.

35. The National Association of Health Data Organizations is currently preparing a State Health Data Resource Manual under contract to the Office of Science and Data Development, Agency for Health Care Policy and Research.

36. A tort action generally is a legal wrong that does not involve a contract.

37. 22 M.R.S.A. 405-D.

38. "Joining Forces: Maine Hospitals Find That Cooperation Brings Results," *Hospitals* 67(5): 26-27, March 5, 1993.

39. H.B. 2710 (amending Kan. Code §§ 65-425 and 65-4909).

40. *California Retail Liquor Dealers Assn. v. Midcal Aluminum, Inc.*, 445 U.S. 97 (1980).

41. Physician self-referral is defined as the referral of patients for tests or services by a physician to health care facilities in which he or she has an investment interest. The physician generally does not provide direct care or oversight in these facilities.

42. General Accounting Office, *Physicians Who Invest in Imaging Centers Refer More Patients for More Costly Services.* GAO/HRD-93-14, April 1992.

43. Pub. L. No. 101-239 §6204(a). The safe harbor regulations, promulgated pursuant to Medicare's anti-kickback statute, permit physicians to refer Medicare and Medicaid patients to facilities in which they have a financial interest only under limited conditions. 42 C.F.R. §1001.952.

44. Michael Dukakis, "The States and Health Care Reform," *The New England Journal of Medicine* 327(15):1090-92, October 8, 1992.

45. Steven H. Miles and others, "Sounding Board: Health Care Reform in Minnesota," *The New England Journal of Medicine* 327(15):1092-95, October 8, 1992.

Appendixes

Appendix A: Biographical Sketches of Commissioners

Stuart H. Altman, Chairman

Stuart H. Altman is dean of the Florence Heller Graduate School for Social Policy, chairman of the board of the Bigel Institute for Health Policy, and Sol C. Chaikin Professor of National Health Policy at Brandeis University. An economist whose research interests are primarily in the area of Federal health policy, he has been at Brandeis since 1977. Between 1971 and 1976, Dean Altman was deputy assistant secretary for planning and evaluation/health at the Department of Health, Education, and Welfare (now the Department of Health and Human Services). From 1973 to 1974, he also served as the deputy director for health of the President's Cost of Living Council, where he was responsible for developing the council's program on health care cost containment. Dean Altman is a member of the Institute of Medicine of the National Academy of Sciences and a former member of its governing council, and serves on the board of Beth Israel Hospital (Boston). He is a past president of the Association for Health Services Research and a former board member of The Robert Wood Johnson Clinical Scholars Program. He has testified before the Congress on a wide range of health policy issues and has written an array of articles in the field. Dean Altman received both an M.A. and a Ph.D. in economics from the University of California, Los Angeles.

Richard A. Berman

Richard A. Berman is president and chief executive officer of Howe-Lewis International. Before joining Howe-Lewis, he was a vice president of Korn/Ferry International responsible for the health care practice in the firm's eastern region. Mr. Berman was previously a practice leader for health care at McKinsey & Company, Inc. In addition, he serves several organizations, including New York City's Mayor's Management Advisory Committee, the National Institutes of Health National Advisory Council for Nursing Research, the National Advisory Council of Johns Hopkins' Center for Hospital Finance and Management, and New York State's Health Care Financing Council. Mr. Berman was the executive vice president of New York University Medical Center from 1983 to 1986 and a professor in health care management at the university's School of Medicine. He was a cabinet official for New York State from 1977 to 1982, first as director of the New York State Office of Health Systems Management and later as the commissioner of the Division of Housing and Community Renewal. Prior to these responsibilities, he held positions with the New York Hospital/Cornell University Medical Center, The Robert Wood Johnson Foundation, The Commonwealth Fund, and the University of Utah Hospital. He was elected as a member of the Institute of Medicine of the National Academy of Sciences and is a Fellow of the American College of Health Care Executives. Mr. Berman has published many articles in the health care field. He received B.A., M.B.A., and M.H.A. degrees from the University of Michigan.

James D. Bernstein

James D. Bernstein is director of the North Carolina Office of Rural Health and Resources Development, which has established 54 community-based health centers and recruited more than 1,100 providers to the state since 1973. He also serves as president of the nonprofit North Carolina Foundation for Alternative Health Programs. Previously, Mr. Bernstein administered a 40-bed hospital and eight health centers for the Indian Health Service. He has held a variety of professional positions, including chairman of the Rural Health Care Advisory Panel of the Office of Technology Assessment and chairman of the rural health steering committee of the National Academy for State Health Policy. He currently is project director for The Robert Wood Johnson Foundation initiative, Practice Sites: State Primary Care Development Strategies, and is a member of the North Carolina Commission on Access to Health Insurance, which is developing a health reform program for the state. Mr. Bernstein received a B.A. from the Johns Hopkins University and an M.H.A. from the University of Michigan.

Clay D. Edmands

Clay D. Edmands is president of Asbury-Salina Regional Medical Center in Salina, Kansas, an acute care rural referral center and an Equal Access Community Hospital. He was active in the development of Health Frontiers, Inc., a large multihospital organization that has been replaced by Voluntary Hospitals of America. His prior experience includes several years with the Fairview Hospital System in Minneapolis, Minnesota, where he held various positions including assistant administrator for development and operations of regional health management and supportive services. Mr. Edmands participated on the Kansas Hospital Association Board from 1980 to 1992, serving as chairman, treasurer, and member of the executive committee. In addition to his two terms on the American Hospital Association Regional Policy Advisory Board, Mr. Edmands has been president of the Health Systems Agency of the Western Kansas Board. Other community involvements include Salina Health Education Board and Voluntary Hospitals of America. Mr. Edmands has been a faculty preceptor for the University of Minnesota independent study program in hospital administration. He currently is a preceptor for the University of Kansas program in health care administration. He holds a B.S. in business administration from the University of Kansas, and an M.H.A. from the University of Minnesota. In addition, he was graduated from the Graduate Naval Supply Corps School and the Naval Officers Candidate School.

William D. Fullerton*

William D. Fullerton is an adjunct professor in the School of Medicine, University of North Carolina at Chapel Hill. From 1978 to 1984, he was principal and president of Health Policy Alternatives, Inc., where he is now a part-time consultant. The first deputy administrator of the Health Care Financing Administration (1977–78), Mr. Fullerton was also a special consultant to the Secretary of Health, Education, and Welfare. He served as chief of the professional health staff, Committee on Ways and Means, U.S. House of Representatives, from 1970 to 1976. Mr. Fullerton was the first executive secretary of the Health Insurance Benefits Advisory Council in 1965–66. Before that, he held various positions in the Social Security Administration. He is a member of the Institute of Medicine of the National Academy of Sciences and a member of the National Academy of Social Insurance. Mr. Fullerton received a B.A. from the University of Rochester.

William S. Hoffman

William S. Hoffman has been director of the Social Security Department of the International Union of the U.A.W. since 1984. Previously, he was the assistant director and a consultant to the department. Dr. Hoffman is also director of the Michigan Health and Social Security Research Institute, Inc., where from 1973 to 1980 he was a senior research associate. An active participant in national and state health care issues, Dr. Hoffman has served on the Michigan Certificate of Need Commission, the Department of Health and Human Services' Council on Graduate Medical Education, the Department of Labor's Advisory Council on Employee Welfare and Pension Benefit Plans, the Governor's Task Force on Access to Health Care in Michigan, and on study committees of the Institute of Medicine of the National Academy of Sciences. He is a member of the National Academy of Social Insurance and an adjunct professor of sociology at Wayne State University. Dr. Hoffman has written and spoken extensively on such issues as the use of prepaid mental health care services and organized labor's perspective on current health care issues and legislation. He received a B.A. in psychology from Otterbein College and M.A. and Ph.D. degrees in sociology from Wayne State University.

Clark E. Kerr

Clark E. Kerr is vice president of government relations, Bank of America. He is also president of the California Business Group on Health, where he manages the legislative agenda. In addition, he is chairman of the California Health Policy and Data Advisory Commission, and chairman of the Performance Assessment and Strategic Planning Committee of the National Committee for Quality Assurance. Mr. Kerr serves on the board of directors of the Washington Business Group on Health, and he co-chairs several health committees. Prior Bank of America positions include manager of corporate health programs, manager of benefits planning, manager

of corporate training, and positions in marketing and world banking financial services. Mr. Kerr received an M.B.A. in marketing from the University of California, Berkeley.

James R. Kimmey

James R. Kimmey is dean of the School of Public Health and professor of public health at the St. Louis University Medical Center, as well as a professor of community medicine at the St. Louis University School of Medicine. In addition, Dr. Kimmey has taught at the University of Wisconsin, Johns Hopkins University, New York University, and Columbia University. He was administrator of the Division of Health Policy and Planning of the state of Wisconsin and executive director of the American Public Health Association in New York and Washington. Dr. Kimmey served as president of the American Health Planning Association (1980–81) and was a member of the board of directors. Former editor of *Health Planning Memorandum* and managing editor of the *American Journal of Public Health*, he has written extensively on health planning and other health policy topics. Dr. Kimmey received B.S., M.S., and M.D. degrees from the University of Wisconsin and an M.P.H. from the University of California.

David A. Kindig

David A. Kindig is director of Programs in Health Management and professor of preventive medicine at the University of Wisconsin-Madison School of Medicine and senior adviser to the Secretary of the Department of Health and Human Services. He served as vice chancellor for health sciences at the university from 1980 to 1985. Dr. Kindig was director of Montefiore Hospital and Medical Center (1976–80) and deputy director of the Bureau of Health Manpower, U.S. Department of Health, Education, and Welfare (1974–76). He is on the board of directors of the Association of University Programs in Health Administration and the Association for Health Services Research. He has also served on the state of Wisconsin's Council for Uninsured Health Care Programs and chaired the Wisconsin Governor's Task Force on AIDS. A member of the editorial board of *Medical Care Review* and *Health Affairs*, Dr. Kindig has written extensively on both medical and health policy issues. He received a B.A. from Carleton College and M.D. and Ph.D. degrees from the University of Chicago School of Medicine.

Larry L. Mathis

Larry L. Mathis is president and chief executive officer of The Methodist Hospital System in Houston, Texas, which includes 10 member corporations and The Methodist Hospital. He has held this position since 1983. Before that, Mr. Mathis held a number of positions at The Methodist Hospital. He is chairman of the board of trustees of the American Hospital Association and serves on its executive committee, and is also governor of the American College of Healthcare Executives. Mr. Mathis is former chairman of both The Greater Houston Hospital Council and of the Texas Hospital Association. He is a former member of the administrative board of the Association of American Medical Colleges' Council of Teaching Hospitals, and chaired the National Advisory Council on Health Care Technology Assessment from 1985 to 1988. Mr. Mathis was also a consultant to the Ministry of Education and Culture in Brazil and served in the U.S. Army from 1965 to 1970. He received a B.A. in social sciences from Pittsburg State University in Kansas and an M.H.A. from Washington University.

Robert J. Myers

Robert J. Myers has been chief actuary and deputy commissioner of the U.S. Social Security Administration. Currently, he is a member of the Committee of Actuaries of the United Nations Joint Staff Pension Fund and president of the International Fisheries Commissions Pension Society. Mr. Myers is a trustee for several organizations, including the Investment Program (mutual funds) of the American Association of Retired Persons, and serves on the boards of advisers of the Seniors Coalition and Studies on Smoking. An active participant in retirement and pension plan issues, Mr. Myers was the chairman of the Commission on Railroad Retirement Reform (1988–90), chairman of the Railroad Unemployment Compensation Committee (1983–85), and executive director of the National Commission on Social Security

Reform (1982–83). In addition, Mr. Myers has served as an actuarial consultant to various congressional committees, and as a technical adviser on Social Security and pension programs to numerous foreign countries. He has held several teaching positions and has published on the topics of Social Security and retirement. He is a past president of both the American Academy of Actuaries and the Society of Actuaries. Mr. Myers earned a B.S. degree from Lehigh University and an M.S. degree from the University of Iowa. He received honorary degrees from Lehigh University and Muhlenberg College.

Donald R. Oder

Donald R. Oder is executive vice president and chief operating officer of Rush-Presbyterian-St. Luke's Medical Center in Chicago, where he formerly was senior vice president. Before that, he was audit manager with Arthur Andersen & Co. in Chicago. Mr. Oder has held various academic appointments and currently is professor in the Department of Health Systems Management at the Rush University College of Health Sciences. He is a member of and has held leadership positions in several professional associations, including the American College of Healthcare Executives, the American Hospital Association, the Illinois Hospital Association, Voluntary Hospitals of America, the American Institute of Certified Public Accountants, and the Illinois C.P.A. Society. He has served on the board of directors of the Better Business Bureau of Metropolitan Chicago, Inc., and on the occupational health committee of the Chicago Association of Commerce and Industry. Mr. Oder received a B.S. from Wichita State University, a C.P.A. certificate from the University of Illinois, and an M.B.A. from the University of Chicago.

Elliott C. Roberts, Sr.

Elliott C. Roberts, Sr., is chief executive officer of the Medical Center of Louisiana at New Orleans (formerly Charity Hospital at New Orleans), a position he has held since 1984. In this capacity, he assisted in the implementation of the reorganization of the Louisiana State Department of Health and Human Resources, which ultimately became the Louisiana Health Care Authority. Mr. Roberts holds an assistant professorship in the Department of Public Health and Preventive Medicine at Louisiana State University Medical School. He is also a preceptor in the Department of Health Systems Management at Tulane University School of Public Health and Tropical Medicine. From 1980 to 1984, Mr. Roberts was chief executive officer of Cook County Hospital in Chicago. Before that, he was vice president and associate project director for Hyatt Medical Management Services, as well as commissioner of hospitals and executive director of Detroit General Hospital. Mr. Roberts served as executive director at both Harlem Hospital Center (1969–72) and Mercy Douglass Hospital in Philadelphia (1965–69). An active member of the American Hospital Association (AHA), Mr. Roberts served on its board of trustees for five years as well as on the nominating committee, House of Delegates, and in other capacities. He is currently chairman of the Metropolitan Hospital Constituency Section of the AHA. Mr. Roberts has held similar positions of responsibility at the National Association of Public Hospitals and the Association of American Medical Colleges/Council on Teaching Hospitals. In addition to many other appointments, Mr. Roberts served on the Secretary's Commission on Nursing, Department of Health and Human Services. He received an M.A. in business administration-hospital administration from the George Washington University.

J. Michael Sadaj

J. Michael Sadaj has been medical director of respiratory care services and an active staff member at St. James Community Hospital in Butte, Montana, since 1979. He is currently secretary-treasurer of the medical staff there as well. In addition, Dr. Sadaj practices with the Rocky Mountain Service Corporation, specializing in internal medicine and pulmonary diseases. Dr. Sadaj formerly was medical director of respiratory therapy at Silver Bow General Hospital in Butte. He served on the executive committee and the infection control committee of both hospitals. Dr. Sadaj also chaired the medical section at St. James Community Hospital (1980–83) and at Silver Bow General Hospital (1980–81). From 1974 to 1979, Dr. Sadaj was a resident in internal medicine and a Fellow in pulmonary diseases at the

University of Nebraska Medical Center in Omaha. He has been a member of and held leadership positions in several organizations, including the Nebraska Medical Association, American Medical Association, Montana Medical Association, and Montana Professional Assistance Program. In 1984, he was elected to a local government study commission. Dr. Sadaj received B.S. and M.D. degrees from the University of Nebraska Medical Center.

Leonard D. Schaeffer*

Leonard D. Schaeffer is chairman of the board and chief executive officer of Blue Cross of California. He came to Blue Cross from his position as president of Group Health, Inc. Mr. Schaeffer was formerly executive vice president and chief operating officer of the Student Loan Marketing Association. He served as administrator of the Health Care Financing Administration, Department of Health and Human Services, and as assistant secretary for management and budget in the Department of Health, Education, and Welfare. Before that, Mr. Schaeffer was vice president of Citibank, N.A. He has held various positions with the state of Illinois, including director of the Bureau of Budget; head of the State Planning Office; chairman of the Illinois Capital Development Board; and deputy director for management, Illinois Department of Mental Health and Developmental Disabilities. He was previously vice president of a private investment banking firm and a consultant for Arthur Andersen & Co. A Kellogg Fellow, Mr. Schaeffer is chairman of the National Health Foundation and is a member of the board of the University of Southern California, School of Public Administration; the Cultural Foundation; Town Hall of California; and *Managed Healthcare*. Mr. Schaeffer is also an International Fellow at the King's Fund College, London, England. He was graduated from Princeton University.

J. B. Silvers

J. B. Silvers is director of the Health Systems Management Center of Case Western Reserve University. He is also the William M. and Elizabeth C. Treuhaft Professor of Finance at the university's Weatherhead School of Management, and professor of epidemiology and biostatistics at the School of Medicine. Before joining Case Western Reserve, Dr. Silvers was a faculty member at the business schools of Indiana, Harvard, and Stanford. At Harvard, he directed the Program for Financial Management and Strategy in Health for five years and served on the faculty of the Program for Health Systems Management for 10 years. Dr. Silvers served the Department of Health and Human Services as a member of the Secretary's Commission on Nursing and as a member of the Health Care Technology Study Section of the National Center for Health Services Research (now the Agency for Health Care Policy and Research). During 1983–84, he chaired the Governor's Commission on Ohio Health Care Costs. He has written extensively in the fields of corporate financial management, and health care and hospital finance. Recently, his research has focused on hospital capital, nursing labor, and return to work after hospitalization. He also serves as a consultant or adviser to numerous private organizations. Dr. Silvers received a Ph.D. in finance from Stanford University, and M.S. and B.S. degrees from Purdue University in industrial administration and engineering, respectively.

Roxane B. Spitzer-Lehmann

Roxane B. Spitzer-Lehmann is executive vice president and chief operating officer of The Hospital of the Good Samaritan in Los Angeles, California. Previously, she was corporate vice president of St. Joseph Health System in Orange, California, which includes eight acute care hospitals, a health maintenance organization, a general and professional liability insurance company, and a home health agency. She holds various nursing professorships at Texas Tech University Health Sciences Center; University of Southern California; University of California, Los Angeles; and California State University, Los Angeles. From 1981 to 1988, Ms. Spitzer-Lehmann was vice president, patient care services at Cedars-Sinai Medical Center. Previously, she held director of nursing positions at several hospitals and was a nurse in both inpatient and public health settings. Her professional activities and achievements include Fellow of the American Academy of Nursing, American Nurses Association task force, Ad Hoc Nurse Executive Committee of the American College of Healthcare Executives, and many other advisory boards. Ms. Spitzer-Lehmann has written and

spoken extensively on such issues as management of nonprofit organizations, cost containment, nursing quality and productivity, nursing in the 1990s, and nursing leadership. She received a B.S. in nursing from Adelphi University, an M.A. in nursing service administration from Columbia University, and both an M.A. in management and an M.B.A. from Claremont Graduate School. She is currently a Ph.D. candidate at the Peter Drucker Management Center, Claremont Graduate School.

Bruce C. Vladeck

Bruce C. Vladeck is president of the United Hospital Fund of New York. Immediately before joining that organization, Dr. Vladeck was assistant vice president of The Robert Wood Johnson Foundation. From 1979 to 1982, he was assistant commissioner for health planning and resources development of the New Jersey State Department of Health. In that position, he was director of the State Health Planning and Development Agency, where he oversaw the implementation of New Jersey's all-payer, DRG-based hospital prospective payment system. Dr. Vladeck taught for four and one-half years at Columbia University, and has served on the adjunct faculty of Rutgers, Princeton, the College of Medicine and Dentistry of New Jersey, and New York University. He is the author of *Unloving Care: The Nursing Home Tragedy*, and has written numerous articles and book chapters on health policy, health care finance, and health politics. He is a member of the board of directors of the New York City Health and Hospitals Corporation, the board of trustees of the Henry J. Kaiser Family Foundation, New York State's AIDS Advisory Council, the Governor's Health Care Advisory Board, and the Council on Health Care Financing. Dr. Vladeck also serves on the executive committee of the New York Blood Center, the advisory committee to the Wagner School of Public Service of New York University, the visiting committee of the School of Management and Urban Policy of the New School for Social Research, and the Institute of Medicine of the National Academy of Sciences. He received a bachelor's degree in government from Harvard College and M.A. and Ph.D. degrees in political science from the University of Michigan.

Jae L. Wittlich

Jae L. Wittlich is senior vice president and chief operating officer, group benefits, CNA Insurance Companies. He also served as vice president of the group benefits department from 1985 to 1990 and as vice president of the group operations division from 1977 to 1985. Before joining CNA Insurance, Mr. Wittlich was with Allstate for 12 years, most recently as assistant vice president of group life and health operations. He is a member of the executive committee and board of directors of the Association of Private Pension and Welfare Plans, and serves on the board of directors of Private Healthcare Systems, Inc., the Foundation for Health Enhancement, and the Health Insurance Association of America. Mr. Wittlich is also a member of the Corporate Advisory Board of the University of Illinois-Chicago School of Medicine and the National Advisory Council of Johns Hopkins' Center for Hospital Finance and Management. In addition, he has served on numerous other industry association committees, frequently lectures on health care topics, and received the 1990 Health Insurance Association of America's Founders Medal. Mr. Wittlich is a Fellow of the Society of Actuaries and a member of the American Academy of Actuaries. He holds B.A. and M.A. degrees from the University of Michigan.

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*Term expired 1993

Appendix B: Glossary

The following acronyms and terms are frequently referenced in Prospective Payment Assessment Commission (ProPAC) reports. Many definitions are from various Health Care Financing Administration publications and other sources, including the American Hospital Association, the Congressional Budget Office, the Congressional Research Service, the Institute of Medicine, the Office of Management and Budget, and the Physician Payment Review Commission, as well as the September 1, 1983, *Federal Register,* Volume 48, Number 171. Where necessary, ProPAC has developed definitions consistent with its use of the terms in Commission documents.

ACRONYMS

AAPCC	Adjusted Average Per Capita Cost
AFDC	Aid to Families with Dependent Children
AHA	American Hospital Association
AIDS	Acquired Immune Deficiency Syndrome
AMI	Acute Myocardial Infarction
ASC	Ambulatory Surgical Center
CABG	Coronary Artery Bypass Graft
CBO	Congressional Budget Office
CHAMPUS	Civilian Health and Medical Programs of the Uniformed Services
CMI	Case-Mix Index
CON	Certificate of Need
CPI	Consumer Price Index
CRS	Congressional Research Service
DRG	Diagnosis-Related Group
DSH	Disproportionate Share Hospital
EBRI	Employee Benefit Research Institute
ERISA	Employee Retirement Income Security Act
ESRD	End-Stage Renal Disease
ESWL	Extracorporeal Shock Wave Lithotripsy
FASB	Financial Accounting Standards Board
FDA	Food and Drug Administration
FMAP	Federal Medical Assistance Percentage
FR	Federal Register
FTE	Full-Time Equivalent
FY	Fiscal Year
GAO	General Accounting Office
GDP	Gross Domestic Product
GHAA	Group Health Association of America
HCFA	Health Care Financing Administration
HHA	Home Health Agency
HHS	Department of Health and Human Services
HIAA	Health Insurance Association of America
HIV	Human Immunodeficiency Virus
HMO	Health Maintenance Organization
IME	Indirect Medical Education
IOM	Institute of Medicine
IPA	Independent Practice Association
JCAHO	Joint Commission on the Accreditation of Healthcare Organizations
LPN	Licensed Practical Nurse
MedPAR	Medicare Provider Analysis and Review file
MCCA	Medicare Catastrophic Coverage Act of 1988
MGCRB	Medicare Geographic Classification Review Board
MRI	Magnetic Resonance Imaging
MSA	Metropolitan Statistical Area
NCHS	National Center for Health Statistics
NCI	National Cancer Institute
NMES	National Medical Expenditure Survey
OBRA	Omnibus Budget Reconciliation Act
OECD	Organization for Economic Cooperation and Development
OMB	Office of Management and Budget
PPO	Preferred Provider Organization
ProPAC	Prospective Payment Assessment Commission
PPRC	Physician Payment Review Commission
PPS	Prospective Payment System
RN	Registered Nurse
SHMO	Social Health Maintenance Organization
SCH	Sole Community Hospital
SNF	Skilled Nursing Facility
SSI	Supplemental Security Income
TEFRA	Tax Equity and Fiscal Responsibility Act of 1982
TIA	Transient Ischemic Attack
VA	Veterans Affairs, Department of
YAG	Neodymium-Yttrium-Aluminum-Garnet Laser

TERMS

Adjusted Admissions—An aggregate hospital output measure reflecting the number of inpatient admissions and outpatient visits, expressed in units equivalent to an inpatient admission. The number of outpatient-equivalent admissions is based on the ratio of outpatient to inpatient charges for each hospital. (AHA and ProPAC)

Ambulatory Surgical Centers (ASCs)—Free-standing facilities that perform a limited number of procedures on an outpatient basis. (ProPAC)

ASC-Approved Procedure—A procedure that has been approved by Medicare for payment in the ASC. A procedure is approved if it can be performed safely in the outpatient setting, if it was performed in the inpatient setting at least 20 percent of the time when it was approved, and if it is performed in physicians' offices no more than 50 percent of the time. (HCFA)

Balance Billing—Physician charges for unassigned claims in excess of Medicare-allowed amounts, for which Medicare patients are responsible, subject to a limit. (ProPAC)

Basic DRG Payment Rate—The payment rate a hospital will receive for a Medicare patient in a particular diagnosis-related group. The payment rate reflects the level of wage rates in the hospital's area and the relative costliness of the diagnosis-related group. (ProPAC)

Beneficiary—A person covered by insurance who receives services paid for by the insurer. (ProPAC)

Beneficiary Liability—The amount beneficiaries must pay for Medicare-covered services. Liabilities include premiums, copayments, deductibles, and balance billing amounts. (ProPAC)

Bundling—Combining separately billable services for the purpose of providing a single payment. (ProPAC)

Capital—An organization's stock of nonfinancial assets at any given time. Medicare's definition of capital costs includes depreciation, interest, leases and rentals, and taxes and insurance on tangible assets, like physical plant and equipment. (ProPAC)

Carrier—An organization, typically an insurance company, that has a contract with the Health Care Financing Administration to administer claims processing and make Medicare payments to providers of services for most Medicare Part B benefits. (See also Fiscal Intermediary and Part B.) (HCFA)

Case Mix—The mix of patients treated within a particular institutional setting, such as the hospital. Patient classification systems, such as the diagnosis-related group system, can be used to measure hospital case mix. As a result, patient classification systems can also be known as case-mix systems. (ProPAC)

Case-Mix Index (CMI)—A measure of the average relative costliness of Medicare cases treated by a hospital compared to the national average cost of all Medicare hospital cases. The CMI is based on the distribution of cases across diagnosis-related groups and the relative costliness of cases in each diagnosis-related group. (HCFA)

Charges—The prices of services provided by a hospital (for example, surgeries, emergency room visits, days of nursing care, or radiology services). Charges are equivalent to gross revenue. Hospitals must apply the same schedule of charges to all patients, regardless of the expected sources or amount of payment. (ProPAC)

Cost Shifting—Using the hospital charge structure to obtain more revenue from one group of patients than another group relative to the respective costs of their care. Hospitals may use cost shifting to make up losses from uncompensated care, to cover average costs that are higher than the payments from some payers, or to increase hospital margins. (ProPAC)

Diagnosis-Related Groups (DRGs)—A system for determining case mix. Originally developed by researchers at Yale University, the DRG system classifies patients into groups based on the principal diagnosis, the presence and type of surgical procedure, patient age, presence or absence of significant comorbidities or complications, and other relevant criteria. The DRG classification system attempts to categorize patients into groups that are clinically meaningful and homogeneous with respect to resource use. There are currently 489 mutually exclusive DRGs. (See also Case Mix.) (ProPAC)

Disproportionate Share Hospital (DSH) Adjustment—Payment adjustment under the prospective payment system (PPS) for hospitals that serve a relatively large volume of low-income patients. (CBO)

Enrollee—A person who is covered by insurance. (See also Beneficiary.)(ProPAC)

Evaluation and Management Services—Non-technical services provided by most physicians for the purpose of diagnosing and treating diseases, and counseling and evaluating patients. (PPRC)

Excluded Hospitals and Units—Hospitals and licensed specialty units of hospitals that are specifically excluded from Medicare's prospective payment system. These include children's, cancer, long-term, rehabilitation, and psychiatric hospitals. Rehabilitation or psychiatric "distinct part" subunits of acute care hospitals are exempt if they meet certain criteria specified by the Secretary of

Health and Human Services. Hospitals located in U.S. territories, Federal hospitals, and Christian Science Sanatoria are also excluded. Excluded hospitals remain under cost-based reimbursement, subject to target rate of increase limits, established in accordance with the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982. (See also Tax Equity and Fiscal Responsibility Act of 1982.) (48 FR 39755)

Financial Accounting Standards Board (FASB)—An independent organization responsible for establishing generally accepted accounting principles. (ProPAC)

Fiscal Intermediary—An entity, usually an insurance company, that has a contract with the Health Care Financing Administration to determine and make Medicare payments for Part A and certain Part B benefits to hospitals and other providers of services and to perform other related functions. (See also Part A and Part B.) (HCFA)

Fiscal Year—A 12-month period for which an organization plans the use of its funds. It typically refers to the Federal government's fiscal year (October 1 to September 30). Fiscal years are referred to by the calendar year in which they end; for example, the Federal fiscal year 1992 began October 1, 1991, and ended September 30, 1992. Individual providers can designate their own fiscal years, and this is reflected in differences in the time periods covered by the Medicare Cost Reports. (ProPAC)

Gross Domestic Product (GDP)—The value of all goods and services produced within the United States' boundaries for a given period. (ProPAC)

Indirect Medical Education (IME) Adjustment—A payment adjustment applied to total DRG payments under PPS for hospitals that operate an approved graduate medical education program. For operating costs, the adjustment is based on the hospital's ratio of the number of interns and residents to the number of beds. For capital costs, it is based on the hospital's ratio of interns and residents to average daily census. (HCFA)

Input—The labor, capital, and other resources used to produce goods and services. (ProPAC)

Intensity of Services—The number and complexity of patient care resources, or intermediate outputs, used in producing a patient care service. For hospitals, the services include admissions and outpatient visits. Examples of intermediate outputs going into a discharge or outpatient visit include units of nursing care, radiological procedures, and laboratory tests. (ProPAC)

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)—A diagnosis and procedure classification system designed to facilitate collection of uniform and comparable health information. The disease classification is revised periodically. The ICD-9-CM is the ninth version and was issued in 1979. This system is the basis for grouping patients into diagnosis-related groups. (HCFA)

Large Urban Area—A metropolitan statistical area with a population of more than 1 million or a New England County Metropolitan Area with a population of more than 970,000. (See also Other Urban Area and Metropolitan Statistical Area.) (ProPAC)

Long-Term Care—A variety of ongoing health and social services provided for individuals who need assistance on a continuing basis because of physical or mental disability. Services can be provided in an institution, the home, or the community, and include informal services provided by family or friends as well as formal services provided by professionals or agencies. (IOM)

Loss Ratio—The proportion of insurance premiums paid out in benefits. (ProPAC)

Major Teaching Hospitals—Hospitals with an approved graduate medical education program and whose ratio of the number of interns and residents to the number of beds is 0.25 or greater. (See also Other Teaching Hospitals.) (HCFA)

Managed Care—A system that integrates the financing and delivery of health care services to enrolled individuals. Enrollees have a financial incentive to use selected participating providers who agree to furnish a broad range of services to members for a prearranged, discounted amount. In addition, managed care systems maintain ongoing quality assurance and utilization review programs. (HIAA)

Market Basket Index—An index of the national average annual change in the prices of goods and services firms use to produce each unit of output, also referred to as an input price index. ProPAC has developed separate market baskets for PPS hospital operating inputs, PPS hospital capital inputs, PPS-excluded facility operating inputs, and renal dialysis facility operating and capital inputs. (ProPAC)

Medicare Cost Report (MCR)—An annual report required of all institutions participating in the Medicare program that records the institutions' total costs and charges associated with providing services to all patients, the portion of those costs and charges allocated to Medicare patients, and the Medicare payments received. (ProPAC)

Medicare Provider Analysis and Review (MedPAR) File—A Health Care Financing Administration data file that contains charge data and clinical characteristics, such as diagnoses and procedures, for every hospital inpatient bill submitted to Medicare for payment. (ProPAC)

Medigap Policy—A privately purchased insurance policy that supplements Medicare coverage and meets specified requirements. (ProPAC)

Metropolitan Statistical Area (MSA)—A geographic area that includes at least: (1) one city with 50,000 or more inhabitants, or (2) a Census Bureau-defined urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England). (OMB)

Nursing Facility—An institution that provides skilled nursing care and rehabilitation services to injured, functionally disabled, or sick persons. Formerly, distinctions were made between intermediate care facilities (ICFs) and skilled nursing facilities (SNFs). The Omnibus Budget Reconciliation Act of 1987 eliminated this distinction effective October 1, 1990, by requiring ICFs to meet SNF certification requirements. (See also Skilled Nursing Facility.) (ProPAC)

Other Teaching Hospitals—Those hospitals with an approved graduate medical education program and whose ratio of interns and residents to beds is less than 0.25. (See also Major Teaching Hospitals.) (ProPAC)

Other Urban Area—A metropolitan statistical area with a population of 1 million or fewer or a New England County Metropolitan Area with a population of 970,000 or fewer. (See also Large Urban Area and Metropolitan Statistical Area.) (ProPAC)

Outliers—Under the Medicare program, patients with extremely long lengths of stay (day outliers) or extraordinarily high costs (cost outliers) when compared with others classified in the same diagnosis-related group. Hospitals receive additional payment for these patients under PPS. (ProPAC)

Part A—The Medicare Hospital Insurance (HI) program (Part A of Title XVIII of the Social Security Act) that covers beneficiaries for inpatient hospital, home health, hospice, and limited skilled nursing facility services. Beneficiaries are responsible for deductibles and copayments. (See also Fiscal Intermediary and Part B.) (ProPAC)

Part B—The Medicare Supplementary Medical Insurance (SMI) program (Part B of Title XVIII of the Social Security Act) that covers Medicare beneficiaries for physician services, medical supplies, and other outpatient treatment. Beneficiaries are responsible for monthly premiums, copayments, deductibles, and balance billing. (See also Carrier and Part A.) (ProPAC)

Patient Classification System—A set of patient categories, and the criteria for assigning patients to those categories. Under PPS, patients are classified into categories for payment using the diagnosis-related group patient classification system. (ProPAC)

Peer Review Organization (PRO)—Organizations that perform medical peer review of Medicare claims, including review of validity of hospital diagnosis and procedural information; completeness, accuracy, and quality of care; appropriateness of admission and discharge; and appropriateness of PPS outlier cases. (ProPAC)

Post-Retirement Health Benefits (PRHBs)—Health benefits provided to retirees and, typically, to their dependents through an employer's group health plan. (ProPAC)

PPS Operating Margin—A measure that compares PPS operating payments to Medicare-allowable inpatient operating costs. This measure excludes Medicare costs and payments for capital and direct medical education, organ acquisition costs, and other categories not included among Medicare operating costs. (See also Total Margin.) (ProPAC)

PPS Year—A hospital's fiscal year under the prospective payment system. PPS 1 refers to the hospital's fiscal year beginning during the Federal fiscal year 1984. For a hospital with a fiscal year beginning July 1, PPS 1 covers the period from July 1, 1984, to June 30, 1985, for example. (See also Fiscal Year.) (ProPAC)

Productivity—The ratio of outputs (goods and services produced) to inputs (resources used in production). Increased productivity implies that the hospital or health care organization is either producing more output with the same resources, or the same output with fewer resources. (ProPAC)

Prospective Payment—A method of paying for health care services in which full amounts or rates of payment are established in advance, and providers are paid these amounts or rates regardless of the costs they actually incur. (ProPAC)

Prospective Payment System (PPS)—Medicare's acute-care hospital payment method. Prospective per-case payment rates are set at a level intended to cover operating costs in an efficient hospital for treating a typical inpatient in a given diagnosis-related group. Payments for each hospital are adjusted for differences in wages, teaching activity, care to the poor, and other factors. Hospitals may also receive additional payments to cover extra costs associated with atypical patients in each DRG. Capital costs, originally excluded from PPS, are being phased in to the system. By 2001, capital payments will be made on a fully prospective, per-case basis. (ProPAC)

Rural Redesignated Hospital—A hospital located in a rural county adjacent to more than one MSA that was redesignated to an adjacent MSA on the basis of combined commuting patterns. (ProPAC)

Skilled Nursing Facility (SNF)—An institution that has a transfer agreement with one or more participating hospitals, that is engaged primarily in providing inpatient skilled nursing care and rehabilitative services, and that meets specific regulatory certification requirements. (See also Nursing Facility.) (IOM)

Small Rural Medicare Dependent Hospitals—Under the Omnibus Budget Reconciliation Act of 1989, rural hospitals with fewer than 50 beds and a Medicare share of inpatient days or admissions of more than 60 percent were eligible for the same payment rules as sole community hospitals. This provision expired on March 31, 1993. (ProPAC)

Sole Community Hospital—A rural hospital that is the only provider of hospital care in its market area. Under PPS, sole community hospitals receive special payment provisions to ensure their financial viability and access to hospital services for Medicare beneficiaries. (ProPAC)

Standardized Amount—An amount that is intended to represent the national average operating cost of inpatient treatment for a typical Medicare patient in a reasonably efficient hospital. Standardized amounts are based on Medicare costs reported by hospitals for cost reporting periods ending during 1982, adjusted for geographic location and hospital characteristics, such as teaching activity. The adjusted amounts are updated to the year of payment by an annual update factor for each year. (See also Update Factor.) (CRS)

Supplemental Insurance—Any private health insurance plan held by a Medicare beneficiary, including medigap policies and post-retirement health benefits. (ProPAC)

Swing-Bed Hospital—A hospital participating in the Medicare swing-bed program. This program allows rural hospitals with fewer than 100 beds to provide skilled post-acute care services in acute care beds. (HCFA)

Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA)—Legislation that established target rate of increase limits on reimbursements for inpatient operating costs per discharge under Medicare. A hospital's target amount is derived from costs in a base year updated by the annual allowable rate of increase to the current year. For a hospital excluded

from PPS, Medicare payments for operating costs generally may not exceed its target amount. TEFRA preceded PPS as a payment system for hospitals, as most current PPS hospitals were paid under TEFRA rules in 1983. (ProPAC)

Total Margin—A measure that compares total hospital revenue and expenses for all inpatient, outpatient, and non-patient care activities. (See PPS Operating Margin.) (ProPAC)

Unbundling—The separate billing of services that were previously included in the same bill. (ProPAC)

Uncompensated Care—Hospital care provided without payment from the patient or a government-sponsored or private insurance program. It includes both charity care, which is provided without the expectation of payment, and bad debts, for which the hospital has made an unsuccessful effort to collect payment due from the patient. (ProPAC)

Update Factors—ProPAC's annual recommended increases to certain Medicare payments, which are applied to the previous year's base payment rates. The update factors are intended to reflect changes in the prices of inputs used to provide patient care services, as well as changes in productivity, technological advances, quality of care, and long-term cost-effectiveness of services. ProPAC has separate update factors for PPS hospital operating payments, PPS hospital capital payments, the TEFRA target rate of increase for PPS-excluded hospitals and distinct-part units, and composite rate payments to dialysis facilities. (See also Market Basket Index.) (ProPAC)

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